



PROMOTING THE DEVELOPMENT OF FOOD VALUE CHAINS IN AFRICA 2015 - SOUTH AFRICA

March 22, 2016

Prepared by Promar Consulting



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FOREWORD

This report reflects the findings of Promar Consulting's research on Sub Saharan African food value chains conducted under the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) project "Promoting the Development of Food Value Chains 2015", part of its Bilateral Business Development Assistance program for Africa. This report focuses on South Africa and Promar Consulting's work on Kenya and Ghana's food value chains can be found in separate reports.

While there is a continued need for assistance focused in the fields of agriculture, forestry and fisheries, MAFF also recognizes that the markets of Sub-Saharan Africa, with their increasing populations and growing economies, have high future potential. MAFF believes that information and analysis of the present situation and future challenges in the food value chains in Sub-Saharan African countries is essential for helping Japanese companies successfully enter these markets and integrate Sub Saharan Africa into global food chains. For these reasons, this project was launched.

This 2015 project also included a business mission to Kenya with public and private sector participants, a workshop conducted in Nairobi and support for bilateral policy dialogues. A summary of these activities is outlined in a separate report and is available for your reference.

Japan has been developing collaborations with South Africa in relation to food value chains, and in June 2014, the Parliamentary Secretary of MAFF, Dr. Yokoyama, and Minister Bheki Cele of South Africa held a meeting in South Africa at which they agreed about the necessity of developing food value chains through partnerships between the public and private sectors. In May 2015, to follow-up, Japan and South Africa held the first Japan-South Africa agricultural policy dialogue in Pretoria.

South African companies have actively expanded their businesses into other African countries and it would be useful for Japanese companies to utilize those networks or to learn from their business strategies. Domestic industries are relatively well-developed and in many cases technologies do not differ from those in developed countries. Nevertheless, there is still room for improvement in terms of technical capacity, product quality and design. In addition, some areas of the country are recently feeling the impact of climate change and there is a need to improve the efficiency of water use and to expand climate smart agriculture.

This report is intended to make useful information on South Africa's FVC widely available to Japanese businesses and international organizations interested in South Africa. This report gives an overall picture of South Africa's food value chains, covering the agriculture, livestock and fisheries industries, as well as the systems which support them: inputs, food processing, domestic distribution, export, logistics, and pertinent machinery and equipment. In addition, major players in food value chains and relevant government policies are described.

We recognize that it is extremely difficult to assess the full complexities of South Africa's agriculture, livestock and fisheries industries and the various food value chains within the constraints of this project. We will be grateful if readers will point out any shortcomings or errors which may be found in this report. Promar Consulting is solely responsible for the content of this report, which in no way represents the official views of the Ministry of Agriculture, Forestry and Fisheries of Japan.

The core of this research is based on interviews we conducted with numerous experts and industry professionals both in Japan and in South Africa including private companies, research institutes, farmers

and others. Although it is not possible to list all the names, we are deeply appreciative of their input and cooperation.

We hope that those interested in South Africa's food value chains find this report to be a useful tool to deepen their understanding of South Africa's agriculture, livestock and fisheries industries, its food industries and relevant government policies, and ultimately benefit Japan-South Africa relations and contribute to promote cooperation for Sub-Saharan Africa development.

Rie Yoshida
Administrator, Corporate Director
Promar Consulting

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Notes :

This project was commissioned by the Japanese Ministry of Agriculture, Forestry and Fisheries and conducted by Promar Consulting. Promar Consulting takes full responsibility for the wording and content of the report.

[Exchange rate]

	Yen/ZAR	ZAR/USD
2014	105.94	10.85
2013	97.60	9.66
2012	79.79	8.21
2011	78.91	7.26
2010	87.78	7.32
2009	93.57	8.47
2008	103.36	8.26
2007	117.75	7.05
2006	116.30	6.77
2005	110.22	6.36

Source: World Bank, IMF

[Consumer Price Index (CPI)]

	CPI (Dec 2012=100)
2014	109.7
2013	103.4
2012	97.8
2011	92.6
2010	88.2

Source: Statistics South Africa

[Abbreviations]

Name	Abbreviations
Aquaculture Development Enhancement Programme	ADEP
African Growth and Opportunity Act	AGOA
Agricultural Policy Action Plan	APAP
Broad-Based Black Economic Empowerment	BEE
Department of Agriculture, Forestry and Fisheries	DAFF
Foreign Direct Investment	FDI
Forum on China-Africa Cooperation	FOCAC
Food Value Chain	FVC
Gross Domestic Products	GDP
Infrastructure Development Bill	IDB
Industrial Development Zone	IDZ
Integrated Growth and Development Policy	IGDP
Industrial Policy Action Plan	IPAP
National Transport Master Plan 2050	NATMAP 2050
National Development Plan: Vision for 2030	NDP
New Growth Path	NGP
Official Development Assistance	ODA
Presidential Infrastructure Coordinating Commission	PICC
Southern African Customs Union	SACU
Southern African Development Community	SADC
Special Economic Zones	SEZ
Strategic Integrated Projects	SIPs

1 OBJECTIVES AND PROJECT BACKGROUND

1.1 Objectives of the project and Scope of the Study

1.1.1 Objectives of the project

In light of the expected doubling of the size of the world food market from 340 trillion yen in 2009 to 680 trillion yen in 2020, MAFF established its Global Food Value Chain (GFVC) Strategy in 2014 with a view to understanding the rapidly growing world food market and encouraging Japan's agricultural and food industries to expand their businesses overseas. The strategy has identified seven regions of the world that have a strong need for private sector investment and offer opportunities for public-private joint efforts. These regions are: (1) ASEAN, (2) China, (3) India, (4) Middle East, (5) Latin America, (6) Africa, and (7) Russia and Central Asia.

With respect to (6) Africa, the strategy calls for the development of high value-added food value chains through agricultural development aid under the TICAD framework and support for food and nutrition security, as well as working with private sector investment to increase farm production and reduce production costs through introduction of improved seeds and farm machinery, irrigation systems and fertilizer application. The strategy aims to promote of high valued-added agriculture, diversification into processing and distribution from primary production (sixth sector industrialization), and development of distribution networks which connect farms with domestic consumer and export markets.

Most Japanese companies involved in FVC activities in Africa have traditionally been based in Southern Africa, especially the Republic of South Africa, a G20 member country. There is, however, an increasing interest in Kenya and other East African countries and in Ghana and other West African countries, where the middle class population is expanding. This research project focused on these three countries (Kenya, Ghana, South Africa) and examined the opportunities for Japanese agriculture and food industries to develop businesses linked to the food value chains in these countries.

More specifically, we conducted the following activities:

- Support for bilateral project development in Kenya (a research study on FVC development, support for a bilateral policy dialogue, workshop and business mission)
- Support for bilateral project development in Ghana (a research study on FVC development)
- Support for bilateral project development in South Africa (a research study on FVC development)

This report summarizes the results of the research study on South African FVC development.

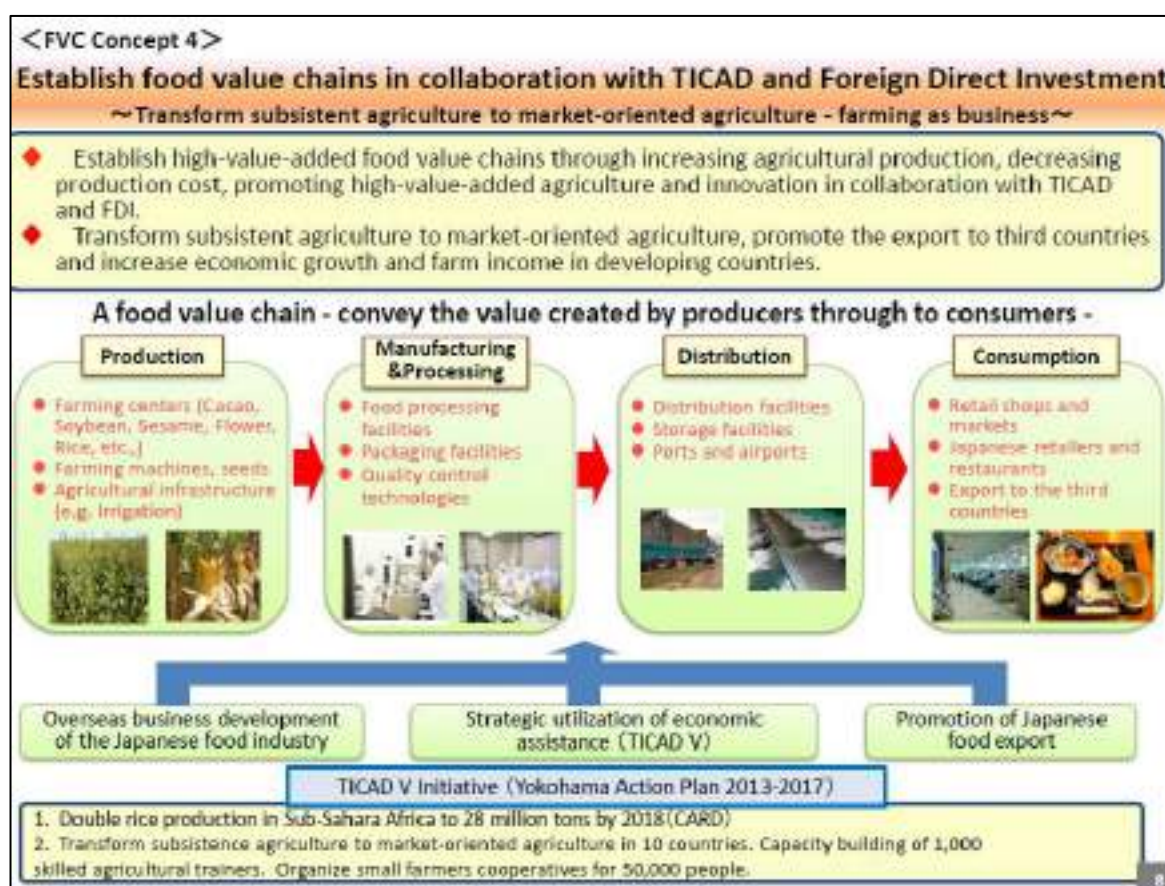


Figure 1 Overview of Food Value Chain Structure in Africa

Source: Ministry of Agriculture, Forestry and Fisheries "The Global Food Value Chain Strategy" March 2015
http://www.maff.go.jp/e/gfvc/pdf/20150313_overview_of_the_gfvc_strategy.pdf

1.1.2 Scope of the study

The methodology used for conducting the study included a desktop literature review, a questionnaire-based survey of the member companies of Japan's Public-Private Council for Promoting the Global Food Value Chain, with follow-up interviews, as well as field research in South Africa, conducted in the period November 30 – December 6, 2015.

The scope of the study covered:

1. Overview of South Africa's food value chains, its consumer market and major domestic and foreign investments in the FVCs

We provide a comprehensive picture of the food value chain in South Africa encompassing agriculture, livestock and fisheries, inputs, downstream processing, exports, domestic distribution, as well as logistics and machinery and equipment. In addition, information and data on major players in the FVC and related government policies have been collected and summarized.

2. Analysis of major product and cross-sectional FVCs in South Africa in which opportunities exist for Japanese companies

The analysis was focused on presenting market entry opportunities identified in our field research on South Africa's FVC. These opportunities include major product categories, as well as cross-sectoral (functional) categories such as agricultural inputs.

1.2 South Africa's Economic Situation and Investment Climate

1.2.1 Population and Economic Trends

Population, GDP, employment

South Africa's estimated population for 2015 was about 5.4 billion people, which makes it the fourth-most populated African country after Nigeria, Ethiopia, and the Democratic Republic of the Congo. As a multiracial country, its population is comprised of 80% Africans, 9% coloreds (mixed group of White and Non-white people), 8% whites, and 3% people of Indian and Asian descent. There are 11 official languages in South Africa, including English, Afrikaans, and Bantu languages (such as Zulu). The population growth rate is approximately 1.3%, and the population is expected to reach 6.6 billion people by 2050. The population of the entire Southern African region, comprising Botswana, Lesotho, Namibia, and Swaziland was approximately 6.3 billion people in 2015, and is expected to reach 7.8 billion people by 2050.¹

South Africa's GDP was USD 350 billion in 2015, and it was the second largest among sub-Saharan African countries, after Nigeria. The GDP per capita was USD 13,000, which is much higher than the average of sub-Saharan African countries, namely USD 1,769. However, due to the unstable power supply and frequent strikes, recent economic growth has slowed to a growth rate of about 2%. In particular, from the second half of 2014 until the first half of 2016, many regions frequently suffered blackouts. The state-run power company Eskom has ongoing construction for three new power generators, in order to improve the power transmission network, but it is predicted that it will be difficult for the economic growth to surpass 3% as long as the power supply problem remains unresolved. In addition, in 2014, mine workers went on strike to increase their wages, which led to a steep rise in the prices for natural resources, such as platinum and palladium.² Furthermore, the sudden resignation of the Minister of Finance in December 2015, followed by several replacements, caused record lows for the South African rand, which led to greater instability in the economic outlook.

The industrial structure of South Africa is considered typical for a developed country and is mainly concentrated on the service industries. The share of the GDP for mining, which has been historically predominant, has fallen. The service sectors, including financial and insurance services, accounted for as much as 70% of the GDP in 2014. Manufacturing/industry represented just under 30% of the GDP and agriculture accounted for just over 2%.

South Africa's work force comprised approximately 20 million people in 2015; the breakdown was 66% employed in the service sector; 18% in the industrial sector; and 4% in the agricultural sector. The unemployment rate was approximately 25%, which was the highest ever recorded. The employment structure for the past 20 years showed a significant increase in the share of whites and people of Indian and Asian descent working in the skilled and semi-skilled sectors, while in contrast, the African population did not show much change, and it appears that racial discrimination in South African society continues to to

¹ UN, 2015, 'World Population Prospects The 2015 Revision'
http://esa.un.org/unpd/wpp/Publications/Files/Key_Findings_WPP_2015.pdf

² JETRO Sensor Magazine, February 2014 edition, P71-71
http://www.jetro.go.jp/ext_images/jfile/report/07001559/07001559.pdf

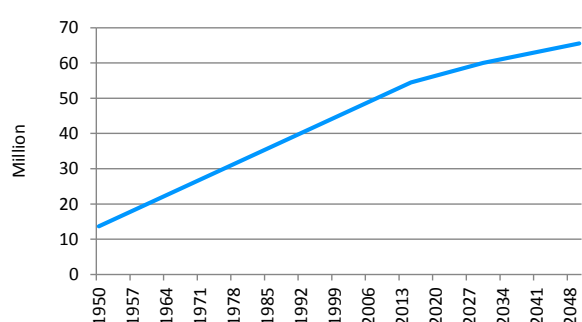
be a major challenge.³ The frequent strikes have become an added reason for the economic disparity and the high poverty rate. Challenges related to the black youth population also remain significant.

Administrative divisions and local government

South Africa is a republic and it has a two-tier governance system. The National Council of Provinces is its Upper House, while its National Assembly is its Lower House. In 2014, the former Prime Minister Jacob Zuma was re-elected as the President of South Africa. South Africa has three cities that function as capitals: its government is based in Pretoria, its legislative arm is based in Cape Town, while its judicial arm is established in Bloemfontein. South Africa's government districts are divided into 9 provinces: Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West, and Western Cape.

Three of these provinces have substantial influence on the national economy. The Province of Gauteng has the largest influence as it represented nearly 35% of the overall economy in 2011. KwaZulu Natal and Western Cape each represented respectively 16% and 14%.⁴ Many industries are concentrated in Gauteng, except for the agriculture, forestry and fishery industries, as well as the mining and quarrying industries. The agriculture, forestry, and fishery industries are dominant in the KwaZulu Natal and Western Cape provinces, while the mining industry is predominant in the North West, Limpopo, and Mpumalanga provinces, with substantial contributions to the state economy.

Figure 2 South Africa population estimates and forecast



Population distribution in South Africa(2015)

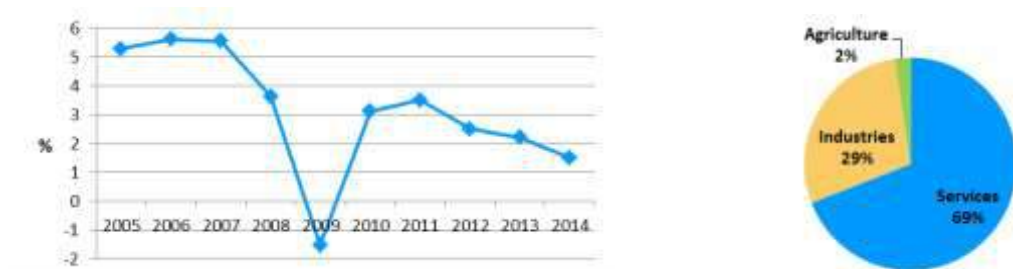
South Africa	54,490,000
Namibia	2,459,000
Botswana	2,262,000
Lesotho	2,135,000
Swaziland	1,287,000

Source: UN World Population Prospects :2015 Revision

³ South Africa's Statistics Bureau, 2014, 'The South African workforce shifts towards skilled jobs, but patterns still differ between race groups' <http://www.statssa.gov.za/?p=3217>

⁴ South Africa's Statistics Bureau, 'Regional economic growth', http://www.statssa.gov.za/economic_growth/16%20Regional%20estimates.pdf

Figure 3 GDP growth and GDP by sector



Source: dti, World Factbook

Table 1 Contribution to GDP and GDP growth rate by sector

Contribution to GDP by major sectors (%)		GDP growth rate of the major sectors (%)	
Industries	2014	Industries	2014
Agriculture, forestry, and fishery*	2.5	Agriculture, forestry, and fishery*	5.6
Mining•Quarrying	8.4	Mining•Quarrying	-1.6
Manufacturing	13.3	Manufacturing	0
Wholesale, Catering, Accomodations	14.8	Wholesale, Catering, Accomodations	14.8
Others**	61	Others**	61

*Inc.Hunting

**Electricity, Gas, Water, Construction, Transportation, IT, Finance, Real estate, Business services,

Social services others

Source: DAFF

Table 2 Unemployment rate among youth and adults by population group (age 15-64)

(%)

	2011	2012	2013	2014	2015
Black African	28.7	28.7	28.3	28.5	29.7
Coloured	23.0	24.1	23.6	23.5	23.3
Indian/Asian	11.3	9.3	12.1	12.4	15.7
White	6.0	6.1	7.3	6.6	7.2
Total	24.8	25.0	25.0	25.2	26.4

Source: Statistics South Africa, 2015, "National and Provincial Labour Market: Youth"

Trade in Goods and Services

South Africa is the largest producer of platinum, gold, and chromium; it holds an important position in trade for mineral resources. The value of exports in 2015 totaled USD 98 billion, and the major exported products were gold, diamonds, platinum, other metals and minerals, and machinery; among them products related to mineral resources comprised as much as 60% of the total. There was a negative trade balance from 2012 to 2013, resulting from the reduction in platinum production due to mining strikes.

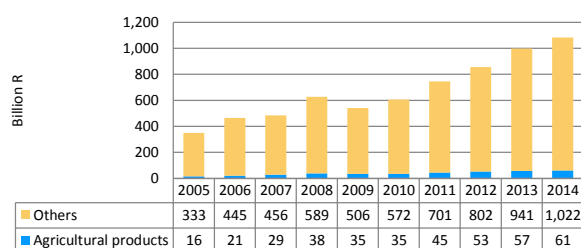
The export destinations were Asia/the Middle East, and Africa; each representing approximately 30% of exports. Other destinations included China at about 10%, USA 7%, while Japan, Botswana, Germany, and Namibia continued to account for approximately 5%. The main export destinations in Africa are countries in

Southern Africa, such as Botswana, Namibia, Mozambique, Zambia, and Zimbabwe. For African countries, the exports are centered on manufacturing, such as machinery, automobile-related products, and cosmetics.

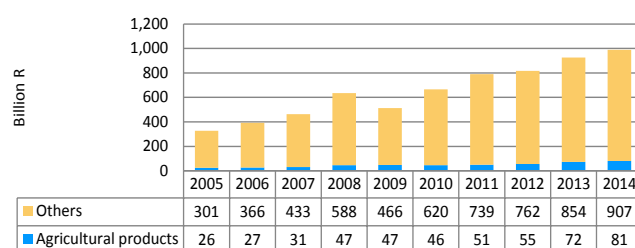
Imports totaled USD 102 billion in 2014, and the main imported products were machinery, cosmetics, petroleum products, scientific instruments, and food products. Approximately 50% of the products were imported from Asia and Middle East countries, while about 30% came from Europe. Specifically, imports into South Africa were approximately 16% from China, 10% from Germany, 7% from Saudi Arabia, 7% from the USA, and 5% from Nigeria and India. South Africa is also a net importer of crude oil.

Service exports are on the rise, and in 2014, they totaled USD 16.8 billion. On the other hand, service imports have continued to fall and are now the same value as exports, which was USD 17 billion in 2014. Tourism and travel represented more than half of exported services, followed by transportation and logistics services. Transportation/logistics services accounted for the largest share of imported services, followed by other services, such as tourism and travel, as well as information and communication.

Figure 4 South Africa's Product Trade



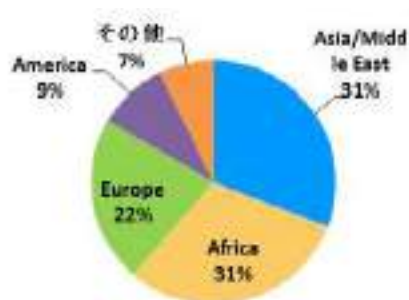
Product Export



Product Import

Source: DAFF

Figure 5 South Africa's trade in goods by area (2014)



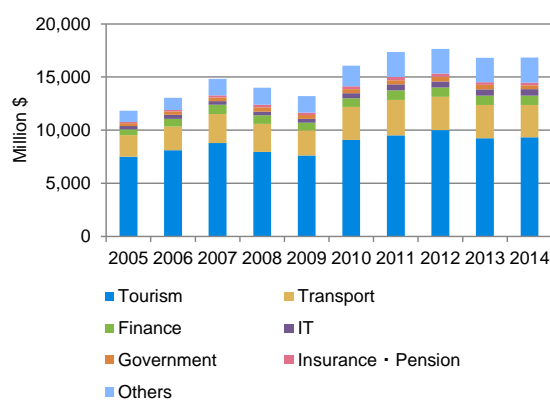
Product Export



Product Import

Source: ITC Trade Map

Figure 6 South Africa's Service Trade



Service Export



Service Import

Source: ITC Trade Map

Foreign investment and Aid

South Africa occupies an important position as a foothold for business development in African countries, including in the SADC⁵ and the SACU⁶ regions. With these economic communities, as well as free trade agreements among the various countries and regions, foreign investment by European and other companies has been active. According to a 2013 JETRO survey, it was reported that Japanese companies looking to enter African markets also perceived entry into these regional economic zones, such as SADC, as a first step towards widespread expansion into Africa.⁷

Foreign Direct Investment (FDI) influx into South Africa was USD 5.7 billion in 2014, which was a 31% decrease compared to the year before. However it remained the largest share, at 14%, of the total FDI influx into sub-Saharan Africa (USD 42 billion). The principal investor was the United Kingdom, which contributed almost 46% of the entire investment amount; it was followed by the Netherlands (19%), the United States (7%), and Germany (5%). Both China and Japan's share represented approximately 3% of the entire investment.⁸ By sector, investment in the financial and business services sectors were most active; these sectors' share represented 36% of the FDI influx (2012). If one includes other sectors, such as transportation and retail, the entire service sector reached more than 50%, and it continues to expand. The recent economic growth in African countries is also a result of the stable FDI influx into South Africa's service sector.

The total amount of Official Development Assistance (ODA) into South Africa by major countries was approximately USD 1.46 billion in 2013. Bilateral assistance reached 80% and the United States was recently the largest contributor with approximately USD 500 million, followed by France with USD 240 million, and another USD 210 million contributed by organizations related to the EU. ODA into health and medical sectors related to initiative on HIV and AIDS comprised the largest share of 44%, assistance for the economic infrastructure and the service sector came to 16% of the total.

6th Ministerial Meeting of FOCAC (Forum on China-Africa Cooperation) and China's investment in South Africa and Africa

In recent years, South Africa has strengthened its economic and political ties with China, its largest trade partner since 2009. China has invested in the metal and energy sectors in sub-Saharan Africa, and South Africa is its largest investment destination. China's accumulated investment between 2006 and 2014 was USD 8.9 billion, 14% of the entire amount for sub-Saharan Africa.

The leaders of 50 African countries attended the 6th Ministerial Meeting of FOCAC with the theme, "China and Africa Progressing Together: Win-Win Cooperation for Common Development" held in December 2015; more than 15 ministers accompanied by 1,700 representatives of delegations from China also attended. The President of the People's Republic of China, Xi Jinping promised to increase the assistance of USD 20 billion specified at the previous FOCAC to USD 60 billion over the next three years (2016-2018). The objective for this assistance is independent and sustainable development with the industrialization and modernization of agriculture, by addressing underdeveloped infrastructure, insufficient human resources,

⁵ Tanzania, Zambia, Botswana, Mozambique, Angola, Zimbabwe, Lesotho, Swaziland, Malawi, Namibia, South Africa, Mauritius, and the Republic of Congo, Madagascar (status being revoked due to internal situation), and Seychelles. South Africa became a member in 1994, after Mandela took power.

⁶ South Africa, Botswana, Lesotho, Namibia, and Swaziland

⁷ JETRO, 2013, "Feasibility of African Business and its Issues"

⁸ Santander, South Africa: Foreign Investment

<https://en.santandertrade.com/establish-overseas/south-africa/foreign-investment>

and insufficient capital, which have become bottlenecks for development in Africa.

China's pledged amount, to be made over the next three years, was positioned as investment. Of that amount, USD 5 billion will be allocated to grant aid and no-interest financing; USD 3.5 billion will be for preferential loans and export credits; USD 5 billion will be allocated as additional capital in the "China-Africa Development Fund" and "Special Loan for the Development of African SMEs"; and USD 1 billion for the initial capital of a joint fund for China-Africa production capacity development. Compared to the previous FOCAC, the portfolio is more diverse. Notwithstanding the recent trade and investment decrease between China and Africa, China's actions showing its interest in Africa were widely reported in the South African media.

China's assistance this time targeted the areas of industrialization, agricultural modernization, infrastructure, financial services, green development, trade and investment promotion, poverty reduction, public welfare, public health, people exchange, as well as peace and stability. In the agricultural sector, in order to help raise local standards of living, China had undertaken agricultural development projects in 100 African villages and dispatched 30 teams of agricultural experts, as well as increased collaboration with African agricultural research institutes. In addition, emergency food aid of approximately USD 160 million to countries facing significant food shortages was provided in response to the poor harvest due to El Nino and other natural phenomena.⁹

In the sectors China's specified as important sectors, cooperation to advance industrialization and build a mutually beneficial, strategic relationship were emphasized. China intends to move some labor-intensive industries to Africa and therefore, emphasis has been placed on strengthening capacity through infrastructure, technical support, and professional training. Emphasis was not put on natural resources at the most recent Ministerial Meeting of FOCAC, and instead a policy to promote exports other than natural resources was set forth. This is based on a recognition that Africa and China need to improve their current trade reliance on natural resources, and that China's demand for raw materials has fallen due to China's stagnating economy.¹⁰

South Africa and China, the co-chairs of the 6th Ministerial Meeting of FOCAC, held a bilateral ministerial meeting prior to the FOCAC Summit, and they confirmed progress in the important sectors specified in the "5-10 Year Strategic Programme for Cooperation," executed in December 2014 when President Zuma visited China. The program declared that the priority sectors for 2015 were the promotion of industrialization in South Africa, the promotion of cooperation between the Special Economic Zones (SEZs), the strengthening of oceanic cooperation, the development of infrastructure, cooperation between human resources, and the collaboration with the financial sector. In the sectors related to agriculture, South Africa and China emphasized human resources and technology exchanges, improving agricultural capacity by dispatching experts, and strengthening cooperative relationships between the two countries' research institutions and universities.¹¹

South Africa and China also agreed to cooperative terms of the sum of ZAR 94 billion related to a total of 26 projects. For the agricultural and fishery sectors, a collaborative agreement was concluded between South Africa's Department of Environmental Affairs and Tourism and China's The National Development

⁹ FOCAC, December 2015, 'Xi Announces 10 major China-Africa cooperation plans for coming 3 years'

¹⁰ Brookings, December 2015, 'Xi and the 6th Forum on China-Africa Cooperation: Major commitments, but with questions'
<http://www.brookings.edu/blogs/africa-in-focus/posts/2015/12/07-china-africa-focac-investment-economy-sun>

¹¹ The Presidency Republic of South Africa, 2014, 'South Africa signs agreements of cooperation with China'
<http://www.thepresidency.gov.za/pebble.asp?reid=18588>

and Reform Commission (NDRC) to strengthen the oceanic economy. This agreement contained provisions about transportation by sea, fisheries, processed marine products, development, building, and operation of ports, park development of the port industry and management and protection of the ocean environment, among other provisions, as well as related provisions for the development of resources and training of human resources. In addition to strengthening the collaboration in the infrastructure sector, agreements were reached about capital investment in Eskom, the power company and Transnet, the port management company. Furthermore, capital investment not only in South Africa, but also in other African countries for projects related to infrastructure and industrial development was confirmed as well. Finally, South Africa and China also established an action plan for strengthening a joint working group, as well as confirmed collaborative efforts related to the investment in renewable energy, in particular, joint investment projects in industrial zones, trade promotion (exhibition of South African products and dispatching of China's trade mission), promotion of exporting South African products to China and cooperation in programs run by black leaders, facilitation of visa acquisition, and improvement in financial collaborations, state-run communications, and distribution systems.¹²

In addition to China, India also held an India-Africa Forum Summit and the United States, in an attempt to promote the AGOA, held the United States-Africa Leaders Summit in 2014. The EU and Korea also continued their business forums with African countries.¹³

¹² Business Report, December 3 2015, 'R94bn deals give new dimension to SA-China ties'

IOL, December 3 2015, 'List of deals signed by SA and China'

<http://www.iol.co.za/business/news/list-of-deals-signed-by-sa-and-china-1.1954370>

¹³ JETRO, 2015, "FOCAC held in Johannesburg – China declares African support of USD 60 billion"

<https://www.jetro.go.jp/biznews/2015/12/33de190902be14fa.html>

The Forum on China-Africa Cooperation Johannesburg Action Plan (2016-2018)-sections related to agriculture and food security

3. Economic Cooperation

3.1 Agriculture and Food Security

3.1.1 The two sides agree that realizing agriculture modernization in Africa by strengthening China-Africa agricultural cooperation is an important way to contribute to food security in Africa, and should be given priority in the context of China-Africa cooperation projects. The cooperation will enhance agricultural transformation and upgrading, increase agricultural production, processing and income, and safeguard food security in Africa bearing in mind the prevailing regulatory requirements.

3.1.2 The two sides will continue to strengthen cooperation in the fields of agricultural policy consultation, planning and design, and support the implementation of the Comprehensive African Agriculture Development Programme (CAADP) through assisting to build agriculture technology demonstration centres, sending professionals for technical cooperation, and training agricultural technicians. In this regard, the African side appreciates the support already rendered by the Chinese government for African countries to implement the CAADP.

3.1.3 The Chinese side will carry out agricultural demonstration projects in Africa, build or upgrade agricultural technology demonstration centres, make effective use of such centres focusing on agricultural research, demonstration and training, expanding training, transferring breeding and plantation technologies and cooperate with African countries to increase agricultural unit productivity.

3.1.4 The Chinese side will continue to send 30 teams of senior agriculture experts and teachers to provide vocational education to African countries, as well as to increase the number of African personnel trained in agro-technology and administration in China, in order to improve overall agricultural technology and management.

3.1.5. The Chinese side will help African countries develop water conservancy and irrigation projects, implement the project of "Agriculture Leads to Prosperity" in 100 African villages, provide African countries with emergency food assistance.

3.1.6 The two sides will actively cooperate in agricultural project designing, financing and management under the framework of the CAADP, as implemented through the AU and NEPAD, and offer support to feasibility studies on agricultural infrastructure construction.

3.1.7 The Chinese side will continue to work with African countries to jointly implement high quality and high yield agricultural demonstration projects, encourage and guide China's agro-science research organizations and enterprises to work with their African counterparts to carry out experimental demonstrations for high-quality and high-yield agriculture, establish "10+10" cooperative mechanism among China-Africa agro-science research institutions, focus on facilitating joint research on breeding and the production of seeds as well as plant protection, specifically focusing on increasing outputs of grain, cotton and other key crops in African countries.

3.1.8 The Chinese side will encourage and support Chinese enterprises to invest in agriculture in Africa; implement cooperation projects focusing on technical support in grain planting, storage, sanitary and phytosanitary requirements, animal husbandry, agro-processing capacity, forestry, and fisheries to create a favourable environment for African countries to realize long-term food security supported by national agricultural production and processing.

3.1.9 The two sides will encourage the trade of agricultural products, improve trade policies, assess methods to promote agricultural trade, and continuously scale up the trade of agricultural products between China and Africa.

3.1.10 The Chinese side will continue to strengthen agricultural cooperation with Africa under the framework of the UNFAO "Special Programme for Food Security", and explore prospects of working with other institutions and countries to realise further agricultural cooperation with Africa.

3.1.11 The African side pledges to cooperate with the Chinese side in key fields such as exchanges on agricultural policies, agricultural infrastructure improvement, development of systems of agricultural support services, modern agricultural development capacity building, and investment in the complete value chain of agriculture to improve Africa's agricultural production and strengthen its capability to ensure food security. It will create an enabling environment for Chinese enterprises to invest and trade in agriculture in Africa, and offer support that includes preferential policies in agriculture, land, agricultural infrastructure, fiscal financing and insurance service, in accordance with local laws.

Source: "The Forum on China-Africa Cooperation Johannesburg Action Plan (2016-2018)"

http://www.dfa.gov.za/docs/2015/focac_action_plan2016_2018.pdf

1.2.2 Logistics Infrastructure: Gateway to Southern Africa

South Africa's logistics infrastructure is comparatively well-developed, spurred by private companies who aim to expand in the South African domestic market and other Southern African countries.

The regional corridors originating in South Africa are comprised of the North-South Corridor and the Maputo Corridor. The North-South Corridor is the route connecting the Port of Durban to South Africa's major trade partners, while the Maputo Corridor is the trade route connecting South Africa's inland provinces of Gauteng and Mpumalanga to the Port of Maputo. In addition, the Nacala Corridor, connected to Malawi, Tanzania, and Mozambique, is an extension of the North-South Corridor, and combined, they are the major corridors connecting the entire Southern African region. In the Regional Infrastructure Development Master Plan by SADC in 2012, the North-South Corridor and the Dar es Salaam Corridor were defined as important investment sectors, due to the high potential of becoming a regional hub in the future. Furthermore, JICA's research on the North-South Corridor and the Nacala Corridor also concluded that they are important routes.¹⁴

Currently, it is estimated that over 75% of transportation delays are caused not by insufficient physical infrastructure, but rather by the complicated customs procedures and customs regulations. According to a Zimbabwean trader who purchases fruits and vegetables for Spar (a large retail supermarket operating in Zimbabwe, Namibia, the Congo, etc.), it takes about 10 hours from Johannesburg to the Zimbabwean border, and additional 3 days for the customs procedures after arriving at the border crossing until the products arrive in Harare, Zimbabwe's capital. In addition, using fresh tomatoes as an example, the purchase price in the central market is ZAR 90 (approximately USD 6, as of early December, 2015) for a 6kg box, but the price is eventually doubled when the box arrives at its export destination due to delivery and customs costs.¹⁵

In order to remove such non-tariff barriers for this type of trade, SADC argues for the necessity to integrate the customs procedures for the entire region. However, all countries in the region would have to toe the same line, which is not possible.¹⁶ JICA is involved in support for a one-stop border post in order for neighboring countries to better to share the customs processing work.

¹⁴ "Collection of information and confirmation survey related to infrastructure development support of Southern Africa's regional economic corridors (2013)", "Support for Agricultural Development Master Plan for Nacala Corridor in Mozambique (2012-2015)"

¹⁵ Promar Consulting interviews, early December 2015

¹⁶ SADC, Transport Corridors & Spatial Development Initiatives
<http://www.sadc.int/themes/infrastructure/transport/transport-corridors-spatial-development-initiatives/>



Figure 7 Major Transport Corridors in Southern Africa

Source: JICA, 2010, "Southern Africa growth belt cooperation program preparation survey"
http://www.jica.go.jp/activities/issues/transport/pdf/SAGB_FR_01.pdf

Rail

South Africa's railroads use the same tracks for both passenger and freight transportation between the major cities, and they have access to 8 ports within the country. Outside South Africa, Namibia, Botswana, Mozambique, Zimbabwe (from Zimbabwe to Zambia) are all connected via Swaziland. Historically, the cargo railway network was developed to support the growth of the mining sector and other heavy cargo industries, as well as the large-scale agriculture and forestry industries. The quantity of transported cargo was 210 million tons per year, and approximately 60% was for iron ore, coal, and manganese wire. Railway depots using large-scale containers were set up in major ports, as well as City Deep in Gauteng Province.

Port

The majority of South Africa's exports rely on transport by sea. South Africa has 8 major commercial ports, starting from the east of the country: Richards Bay, Durban, East London, Ngqura, Port Elizabeth, Mossel Bay, Cape Town, and Saldanha. Each port handles different cargo, e.g. automobiles, natural resources, agricultural cargo. The Port of Durban is South Africa's largest port, and it is the largest harbor area in Africa. It handles more than 450 million tons of cargo, including automobiles, liquid bulk products, among others. It handles 2.67 million TEU (Twenty Foot Equivalent Unit) containers and it processes 65% of the entire country's containers. Nevertheless, cargo processing capacity and speed still face challenges.

South Africa's government aims to improve the Port of Durban's processing capacity, as well as Ngqura and Saldanha Ports as alternatives, and the government is expected to invest approximately ZAR 43.5 billion (approximately JPY 400 billion) over 7 years starting in fiscal 2014/15.¹⁷ In addition, Japan intends to support improved management efficiency for the Port of Durban.¹⁸

¹⁷ JETRO, 2015, JETRO Sensor Magazine December edition

¹⁸ Embassy of Japan in South Africa, September 2015, Current State of Japan-South Africa Cooperative Relationship
http://www.za.emb-japan.go.jp/jp/Japan_SA/Japan_South_Africa_Cooperative_Relationship.pdf

Roads

South Africa's roads are used frequently for cargo transportation. The national highways are for the most part well developed, and the conditions of paved roads in the city areas are comparatively good. In contrast, the maintenance and management of the regional paved roads and gravel roads including those in the cities (comprising about 75% of South Africa's road network) are deemed insufficient. Furthermore, even among the regional roads, road access is limited to regions with a low population density, due to excessive use and inappropriate investment. Over the past few years, it is reported that investment and improvement in roadwork has made considerable progress. Traffic congestion surrounding the major cities is a issue, because of the increase in travellers and road transportation for cargo. Large-size and overloaded vehicles pass through frequently, which leads to the worsening of traffic congestion, road safety, and road conditions; these areas require improvement.

Airports

Airport facilities in South Africa were greatly improved thanks to the FIFA World Cup in 2010. The major airports are OR Tambo International Airport in Johannesburg, Cape Town International Airport, and King Shaka International Airport in Durban. OR Tambo International Airport is the center for cargo and passenger transportation, especially for imported cargo. Cape Town Airport is the hub for the West Cape, which has well developed agriculture and as a result the airport often handles cargo for export, mainly fresh fish. South African Airways is the country's representative airline and it accounts for the largest share of the airline market in Southern Africa. SA Airways is constantly increasing its number of flights to other African countries. South Africa is reported to handle 470,000 tons of cargo and to fly more than 40 million passengers per year. Recently, public transportation access to major airports, including high-speed trains, has been improving, and intermodal transportation development plans, such as the NATMAP, have been developed in relation to the corridors for transporting cargo.¹⁹



Figure 8 South Africa's Railway Network and Major Ports

Source: Development Bank of Southern Africa (former Transnet Limited) , 'The State of South Africa's Economic Infrastructure: Opportunities and challenges 2012'

¹⁹ Department of Transport, 2015, 'National Airports Development Plan'
<http://www.transport.gov.za/Portals/0/Aviation/NewFolder/ANNEXURE%20A%20-%20NADP%20v25%20final%204%20August%20202015.pdf>



Figure 9 South Africa's Major Roads (Up) and Road Network (Bottom)

Source: Development Bank of Southern Africa (former Department of Transport, ibid)

1.2.3 Investing in South Africa: Incentives, Benefits and Risks

South Africa has been aiming to build a free, open investment environment since the end of Apartheid, and the support system from the government with respect to investment is well developed. However, there have been recent changes in the approach to FDI. While investor protection measures have made progress, the South African government has also emphasized obtaining maximum profit from investments by expecting compliance with requirements on rates of local content utilization and contribution to political objectives in the National Development Plan: Vision for 2030 (NDP), such as extensive growth through economic stimulation of the unemployed and black population. As an agreement in lieu of bilateral investment treaties in 2015, the Parliament and the National Assembly approved the Promotion and Protection of Investment Bill. This Bill partially reduced investors' rights, such as guaranteeing compensation for fair market value with respect to investors. The Opposition Party stated its concern that the Bill caused a sudden fall in foreign investment, and it would be necessary to monitor its future direction.

Incentives available to foreign investors

South Africa's body promoting investment is Trade and Investment South Africa, under the jurisdiction of the Department of Trade and Industry (DTI). Similar organizations exist in each province such as the

Western Cape Investment and Trade Promotion Agency (WESGRO) and they develop activities to encourage investment according to the regional specifics. Agricultural processing, export production, and chemicals were presented as the types of industries where foreign investment was encouraged. One of the preferential measures targeting foreign investment is a subsidy related to transporting new equipment and machinery for the production industry. Preferential measures in the production, fisheries and infrastructure sectors were also established as incentives for industrial development. In addition, a framework was developed for increasing the participation of the black community and other oppressed groups. Incentives for promoting trade, export, and investment promotion were also established. Each of these preferential measures had different conditions for application.²⁰

South Africa created Industrial Development Zones (IDZ) with the purpose of promoting exports of value-added products and attracting FDI. These are exemption zones for excise, value-added tax, and import tax on assets and are connected to international airports or ports. Currently, there are 5 IDZ: Coega, Richards Bay, East London, Saldanha Bay, and Dube Trade Port. In 2007, based on the idea of IDZs, political policies related to new Special Economic Zones (SEZs) were enacted. These policies were specified as the pillars for South Africa's industrialization, regional development, and creation of employment in the Industrial Policy Action Plan (IPAP) 2014/15-2016/17. Some of the incentives which were designated for SEZs included reduction of corporate tax (tax rate of 15%) and duty free.²¹

Foreign investment restrictions

In the distribution sector, which includes wholesale, retail, domestic cargo transportation and storage, 100% foreign investment is basically accepted. However, for retail distribution of alcohol, a license is granted based on an economic needs test. In addition to requiring permission from the relevant authorities depending on the market sector, investment in the communications and financial markets require a proportion of participation from black investors. Apart from these industries, there were no regulations about the capital percentage related to establishing a merged company.

In South Africa, foreign companies can own residential property and commercial real estate. In 2015, President Zuma introduced the Land Holdings Bill regarding agricultural land ownership, in which restrictions were placed on farm ownership by foreigners. Foreigners can lease land in South Africa for at least 30 years, but cannot purchase land. There are plans to restrict the land ownership per farming household to 12,000ha or to as much as approximately two farms. It is currently uncertain whether these proposals will actually be enacted into laws, but considering the ambiguity of the future, investors have started to decide not to make long-term investment into fruit cultivation, which requires irrigation equipment and high capital.²²

Investment benefits and risks from a foreign company perspective

South Africa has the second highest GDP in sub-Saharan Africa, after Nigeria, and consumer markets are expected to grow further triggered by the growing middle class. Development of natural resources has

²⁰ dti, 2014, 'A Guide to the dti Incentive Schemes 2014/15'

https://www.thedti.gov.za/financial_assistance/docs/thedti_Incentive_Guide2014_2015.pdf, JETRO, Incentives regarding foreign investment https://www.jetro.go.jp/world/africa/za/invest_03.html

²¹ dti, Industrial Development Financial Assistance (Incentives)

https://www.thedti.gov.za/financial_assistance/financial_incentive.jsp?id=59&subthemeid=25

²² Omnia Annual Report 2015, The Presidency, News- Limiting foreign ownership of land in South Africa <http://www.thepresidency.gov.za/pebble.asp?reid=19029>

progressed and road and port infrastructure is organized relatively well at present. As a result, the distribution and manufacturing sectors are well developed, and the communication and financial service sectors are also making strides. South Africa's market functions as an operational base for the other Southern African countries as well. The recently cheap South African rand is expected to have a positive impact on increased exports and growth in the tourist sector, as well as attracting more direct capital.

On the other hand, ongoing issues regarding the business environment in South Africa include economic growth stagnation due to the frequent labor strikes and insufficient power supply, mainly in the mining and manufacturing sectors. The problems of poverty, income disparity, and high unemployment remain and have impacted the increase in general crime and a shift toward the expulsion of refugees.

Policies to empower black population's economic power

Addressing racial discrimination in South Africa, which arose during the Apartheid era is a constant issue, and private companies are expected to pursue business models taking this history into account. When foreign companies conduct business in South Africa, in principle, they hire local staff, and foreigners are granted permission to work only if no one within South Africa is qualified in the specific trade or when the foreigner is a person with special skills and qualifications. In this regard, the Broad-Based Black Economic Empowerment policy (BEE) was set forth as affirmative action to promote the improved status of blacks, coloreds, and people of Indian and (from 2008) Asian descent, who were oppressed historically from a socio-economic perspective. Private companies are not legally bound by laws related to BEE, but their BEE scores are an important assessment index in a public purchase or an investigation for an application for a business permit. The Code of Good Practice is an index for assessing a company's contribution to BEE efforts, and it is determined based on 3 factors: the company or supplier's development, ownership rights, and technical development; in addition, two other aspects — management control (including employment equality, etc.) and socio-economic development, make a total of 5 factors assessed. A company is given a BEE status, corresponding to the scale of its organization, based on the total of these 5 factors.²³ Furthermore, in specific sectors, such as agricultural and financial services, a sector code is separately established, and it is basically applied with precedence over the general code. The agriculture code (AgriBEE) is being revised along with revisions to the general Code, and in particular, it promotes black suppliers' or entrepreneurs' development in the agriculture value chain. Consequently, emphasis is placed on the promotion of localization and other efforts in the businesses, products, and services related to greenfield (undeveloped land) ventures.²⁴

²³ JETRO Sensor Magazine, July 2015 edition, Embassy of Japan in South Africa, 2014, "BEE policies in South Africa —Overview of legal framework—"

²⁴ dti, 'Minister Davies Gazettes Amended Agri-BEE Sector Codes' <https://www.thedti.gov.za/editmedia.jsp?id=3598>

1.2.4 Japan's economic aid related to the food value chain

Japan has been developing initiatives with South Africa in relation to FVC sectors, and in June 2014, the Parliamentary Secretary of MAFF, Dr. Yokoyama, and Minister Bheki Cele of South Africa held a meeting in South Africa at which they agreed on the necessity of developing the FVC through partnerships between the public and private sectors. In May 2015, at a follow-up meeting, Japan and South Africa held the first Japan-South Africa agricultural policy dialogue in Pretoria. Both countries agreed to continue to hold policy dialogue related to the development of the agriculture, forestry, and fishery sectors as well as the food sector. Going forward, they started to conduct training of South African experts and dispatch JICA experts on projects for agribusiness management and income improvement by Smallholder Horticultural Empowerment Projects (SHEP).²⁵

In the agricultural sector, a preparatory survey related to independent support of small-scale vegetable producers through production advice and management training was conducted by a team of three organizations: JICA's Preparatory Survey for BoP business collaboration, Sakata Seed Corporation and PlaNet Finance Japan (an NPO). Furthermore, JICA is promoting trade and offering support for regional infrastructure development in the Southern African region.

²⁵ Ministry of Foreign Affairs, 2015, Current Conditions of Cooperative Relationship between Japan and South Africa
<http://www.mofa.go.jp/mofaj/files/000103944.pdf>

2 FOOD VALUE CHAINS AND THE SOUTH AFRICAN RETAIL MARKET

South Africa's agriculture and livestock industry has extensive export capacity, and its food processing industry is also well developed. Major supermarket chains play a prominent role in the distribution and retail industry, but traditional retailers remain well patronized, and the retail market is expected to continue to grow. South Africa's FVC would appear to present many market entry opportunities, particularly through investment in or collaboration with existing sectors and companies, as well as the provision of energy-efficient or low environmental impact products, technologies, processing machinery, and agricultural inputs. In this section, we will present an overview of South Africa's FVC from the agriculture, livestock, and fishery industries to the consumer market, and introduce the major players in this FVC and the related government policies.

2.1 Supply and Demand of Food, and Agriculture, Livestock and Fisheries Industries of South Africa

2.1.1 Domestic food supply²⁶

South African households are spending more on food in recent years, with total spending in 2014 rising by about ZAR 490 billion over the previous year, an increase of approximately 8%. Meat is the largest spending category, accounting for 32% of the total, followed by bread and cereals at 26%, fruit and vegetables at 14%, and dairy products and eggs at 12%. Other categories in which spending is relatively high include oil and fat products, sugar, and other manufactured products (jam, chocolate, ice cream, table salt, herbs, coffee, tea, etc.).

Meat consumption has increased over the past 20-30 years thanks to the growth of the economy and average incomes, and annual meat consumption is about 65kg per person. Poultry meat accounted for almost 60% of the meat (beef, mutton, goat, pork, and poultry) consumed in South Africa in 2013. Beef and veal dominate the country's red meat consumption, followed by pork at about 25%, and then mutton. About 20% of poultry meat required to meet domestic demand is imported (2013), and both consumption and imports are expected to continue to rise.

Among cereals, maize is an important staple of poor households in particular, being consumed most frequently in the form of a porridge (known locally as pap) of maize meal kneaded with hot water. Maize is also a major ingredient in animal feed. Maize production is large and because of the high domestic demand, the majority of the production is consumed domestically. Sorghum is also a staple in households with relatively low incomes. Hard, high-protein wheat is used in bread, but due to limited domestic production, imports account for about 60% of wheat demand. Dried beans are also a popular staple, but because

²⁶ DAFF, 2014, 'Trends in the Agricultural Sector'
<http://www.daff.gov.za/daffweb3/Portals/0/Statistical%20Information/Trends%202014.pdf>

domestic production cannot meet demand, large quantities are imported from China and other countries.

Approximately half the production of deciduous fruit trees is consumed domestically, with the remainder being exported. Grapefruit and other citrus fruits are a particularly important source of foreign currency for South Africa. Over 50% of South Africa's dried fruit production (of which raisins, peaches, pears, and prunes are the major products) is also exported. South Africa is the world's ninth largest wine producer, accounting for 4% of global production, with almost 60% of its wine being exported in 2013.

Per capita egg consumption stood at 165 eggs in 2013, which is high in Africa but expected to rise owing to the relative low-cost of eggs as a source of protein compared to other animal protein. Both fresh and long life milk are consumed.

South Africa's sugar cane-based sugar industry produces sugar, syrup, and by-products, offering products that are both high quality and competitively priced.

Table 3 South Africa's Food Balance Sheet (2011)

	Supply('000 ton)					Demand('000 ton)						Per capita consumption	
	Production	Imports	Stock Variation	Production	Imports	Stock Variation	Production	Imports	Stock Variation	Production	Imports	Stock Variation	Production
Wheat	2,005	1,909	-500	143	3,271	3,141	0	39	33	58	0	60.5	495
Rice	2	932	0	45	890	889	0	0	0	0	0	17.1	168
Barley	312	233	-90	3	452	4	422	12	6	8	0	0.08	1
Maize	10,360	91	2,600	2,765	10,286	5,210	34	4,357	44	391	250	100	859
Tubers	2,251	120	0	69	2,302	1,768	0	225	78	111	121	34	67
Sugar cane	16,800	0	0	0	16,800	15,960	0	0	0	840	0	0	0
Sugar • Sweetener	2,041	234	-109	313	1,853	1,815	39	0	0	0	0	34.9	317
Pulse	64	113	0	6	170	143	0	15	6	4	0	2.75	25
Nuts	18	16	8	22	20	20	0	0	0	0	0	0.38	3
Soybeans	710	2	-295	43	374	57	267	7	21	21	0	1.1	10
Peanuts	45	15	0	14	46	23	20	0	2	2	0	0.43	7
Sunflower seeds	860	26	-190	0	696	692	0	4	0	0	0	0	0
Vegetable Oil	442	885	11	131	1,208	719	2	0	0	0	486	13.8	335
Tomato	512	81	0	39	554	502	0	0	0	51	0	9.67	6
Other vegetables	1,537	61	0	40	1,558	1,368	0	41	0	150	0	26.3	24
Orange	1,644	4	0	1,119	530	500	0	0	0	30	0	9.62	7
Lemon	260	1	0	192	69	56	0	0	0	13	0	1.08	0
Grapefruit	416	1	20	267	169	147	0	0	0	22	0	2.83	2
Other citruses	11	0	0	1	10	9	0	0	0	1	0	0.18	0
Banana	385	52	0	0	437	393	0	0	0	44	0	7.56	12
Apple	781	268	0	573	476	437	0	0	0	39	0	8.41	8
Pineapple	103	3	20	72	54	49	0	0	0	5	0	0.94	2
Grape	1,684	35	25	332	1,412	105	1,306	0	0	0	2	2.01	4
Other Fruits	849	21	0	421	449	335	74	0	0	46	0	6.45	8
Coffee	0	71	0	7	63	63	0	0	0	0	0	1.22	1
Tea	2	24	0	3	23	23	0	0	0	0	0	0.45	0
Spices	15	20	0	8	29	28	0	0	0	1	0	0.54	5
Wine	966	2	0	374	594	402	192	0	0	0	0	7.74	15
Beef	829	13	0	11	831	823	0	0	0	0	8	15.8	97
Mutton • Chevron	1,492	324	1	10	1,808	1,808	0	0	0	0	0	34.8	140
Pork	51	23	1	9	68	34	0	0	0	0	35	0.65	11
Chicken	511	0	0	5	507	380	0	0	76	51	0	7.31	28
Other meat	3,256	209	3	114	3,355	2,840	0	500	0	15	0	54.7	89
Animal fat	627	164	5	380	415	298	0	116	0	0	0	5.74	12

Source: FAOSTAT

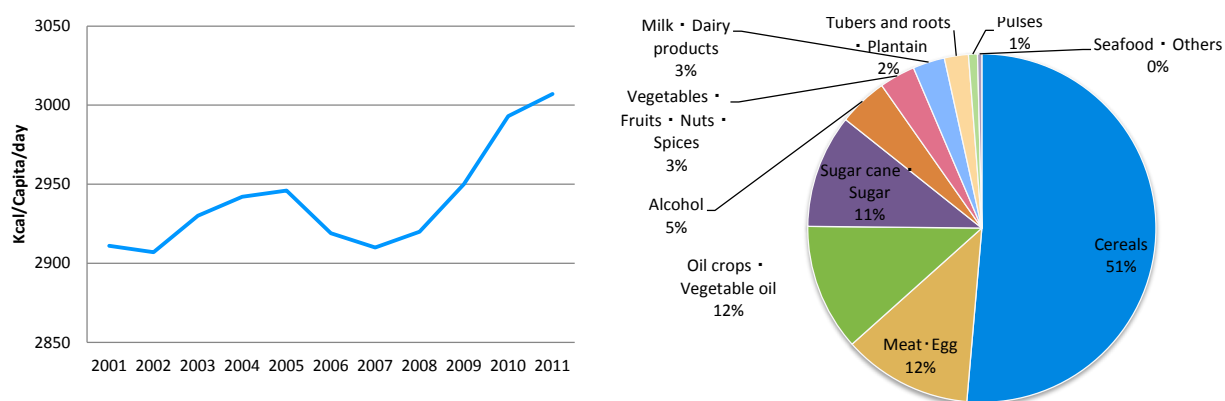


Figure 10 South Africa's Changes in Calorie Consumption and Calorie Sources (2011)

Source: FAOSTAT

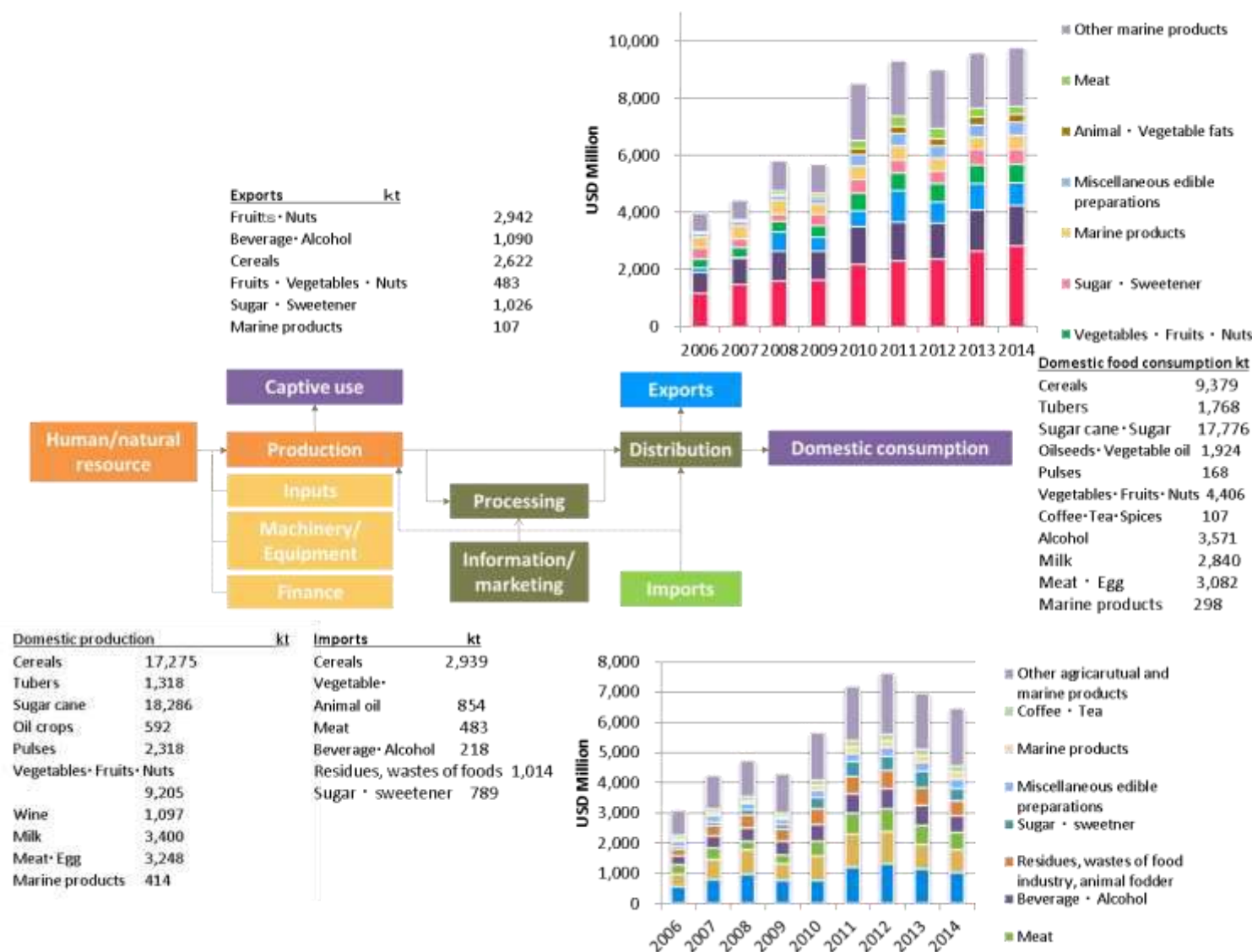


Figure 11 Food Map of South Africa (2014)

Source: FAO, ITCTrade Map *Domestic food consumption data is for 2011

2.1.2 Trade in agricultural produce

Export

South Africa is self-sufficient in the majority of key agricultural crops, making it a net exporter of agricultural products. Its main agricultural exports are citrus fruits, wine, maize, apples, pears, quinces, and grapes, with other export crops including avocados, mangos, macadamia nuts, and pecan nuts. Overall, processed products make up an increasing percentage of agriculture, forestry and fishery industry exports. The main export destinations of agricultural products are the Netherlands, United Kingdom, Zimbabwe, Mozambique, and China (2013/14).²⁷

The export of fresh fruits and vegetables has become a thriving business, with particularly large shipments of apples and citrus fruits because they keep well. South Africa is the southern hemisphere's largest exporter of oranges. Europe used to be the main export destination for apples, but exports to Asia have increased in recent years to match those to Europe and other African countries. In Africa, Western Africa (particularly Ghana and Benin) is the main export destination, followed by SADC (particularly Angola and Zimbabwe). Significant volumes of canned fruit (peaches) are also exported particularly to the EU market, but these exports have been losing ground in recent years to Greece and other countries.²⁸ As a recent development, South Africa has tightened its citrus fruit management in response to the tougher import regulations imposed by the EU to combat black spot disease, and is also focusing increasingly on Asia and other new export markets.

Import

South Africa's main agricultural import items are rice, wheat, meslin flour, poultry, non-denatured ethyl alcohol, and oil cake. Rice is not produced in South Africa because its cultivation requires large volumes of water, so the country depends on imports from Thailand and India. Wheat imports are expected to increase in the future because of factors such as climate changes that make domestic cultivation increasingly difficult, as well as the cost of transportation from production sites to cities (particularly Johannesburg).²⁹ The main sources of agricultural imports to South Africa are Argentina, Brazil, UK, The Netherlands, and China (2013/14).³⁰

Other relatively common agricultural imports include meat, edible oil, whiskey and other beverages, and seafood.³¹ To protect domestic producers, high tariffs are imposed on some meat products, with anti-dumping laws being applied to poultry meat from the United States, the Netherlands, United Kingdom, and other countries. Imports of agricultural inputs such as chemical fertilizers, machinery, and animal feed ingredients are growing. However, owing to the extremely stringent requirements imposed on canned products, obtaining approval for canned meat and fish imports takes time, impeding market entry.

Due to the increasingly severe drought in 2015, the maize harvest of 2016 is expected to be the smallest since 2007, and Grain SA is forecasting that 3–5 million tons of maize will need to be imported to meet domestic demand for the same year.³² Since South Africa is also a supplier of maize to other SADC

²⁷ DAFF, 2014, 'Trends in the Agricultural Sector'

²⁸ Promar Consulting expert interview

²⁹ Promar Consulting expert interview

³⁰ DAFF 2014, 'Trends in the Agricultural Sector'

³¹ USDA, 2014, Retail Foods

³² BusinessDay, 4 December 2015, 'Maize shortage puts food security at risk for millions', Bloomberg Business 27 January 2016

countries, the current situation will likely impact food security in these export destinations.

2.1.3 Agriculture, livestock, fisheries and food processing industries

Farmland availability and geographical distribution

Although the majority of South Africa's land receives little rain and has poor soil, livestock grazing and the cultivation of crops such as maize, wheat, sugar cane, and fruit is well established, particularly in the southern region with its Mediterranean climate and northern region with its subtropical climate. The Central Plateau occupying the country's center is a cool, arid highland with generally low agricultural production, but some parts where irrigation was established managed to develop large-scale production. In the western desert region with its arid climate, grazing is the most common agricultural pursuit, but maize and wheat are also cultivated in some parts. The eastern Kwazulu-Natal plateau and coastal region has a subtropical climate with relatively high precipitation supporting the production of sugar cane, maize, pineapple, and other crops, as well as poultry farming. The southern Cape coastal zone has a mild Mediterranean climate that enables the cultivation of wine and table grapes, citrus fruits, apples, pears, apricots, and other fruit.³³



Figure 12 Major Vegetation in South Africa

Source: Agricultural Geo-Referenced Information System Website (<http://www.agis.agric.za/agisweb/agis.html>)

Farm Size

Most South African farmers are small-scale farmers, with the large-scale farmers that make up about 20% of the total farming population producing 80% of the country's agricultural output. While the number of commercial farmers has declined from 120,000 in 1952 to less than 40,000 today, the farms have increased in size, aided by the deployment of more advanced technology. Irrigation systems have been installed to support the cultivation of citrus fruits and vegetables for the domestic market.³⁴

South Africa's agriculture can be divided roughly into two types, namely commercial farming conducted

³³ 'Worst South Africa Drought in Memory Cuts 2016 Maize Crop 25%'

³³ Promar Consulting 2007 Survey and Analysis of the Republic of South Africa's Agriculture, Forestry and Fisheries Industries and Related Government Policies

³⁴ Promar Consulting expert interview

mainly by white farmers, and subsistence farming conducted by black farmers in former homelands and other areas. The disparity between these two types has widened over the past 20 years. South Africa's subsistence farming is very small-scale agriculture that combines livestock grazing with the cultivation of cereal crops, mostly in areas that were once the so-called "black homelands" to which black inhabitants were forcibly relocated during the Apartheid era. Most subsistence farms are located in areas with poor soil and scarce water resources, and this together with the loss of traditional farming techniques as a result of forced relocation make it difficult to earn a decent living from farming.

Agriculture³⁵

Although agriculture's share of total GDP has declined, agricultural production is rising, with maize, fruit, vegetables, and sugar cane being the predominant crops. In 2013, maize topped other crops in production area, being cultivated on 3.25 million ha, followed by wheat and soybean with 520,000 ha each, sugar cane 330,000 ha, fruit such as grapes and citrus fruits 300,000 ha, and vegetables 160,000 ha. South Africa is the continent's largest producer of maize, supplying it to neighboring countries, but 2016's harvest is predicted to fall 25% short of the previous year as a result of drought, giving rise to concern over food security both within South Africa and in the surrounding countries.³⁶

Biotechnology has become a major force in South Africa's agriculture, with GM crops being grown on approximately 2.9 million ha in 2014, making the country the world's ninth largest producer of GM crops. Animal feed maize is the biggest GM crop, but GM soy production is increasing as well.³⁷

Livestock industry³⁸

South Africa's livestock industry is an important sector that accounts for 45% of agricultural output (2014). Although rough grazing of cattle and goats has long been practiced in pastures throughout South Africa, such grasslands have decreased in the country's interior in recent years, and major livestock farms have come to be concentrated around urban areas.³⁹ Poultry, dairy, and pork industries have all undergone considerable modernization. Consumption of meat is predicted to continue to rise and South Africa's meat industry needs to expand rapidly to keep pace with increasing demand.⁴⁰

Fisheries

Although the fishery sector accounts for only 0.1% of South Africa's GDP, it plays an important role in local economic development in some regions, particularly the Western Cape province, where many fishing ports are located, and fisheries generate over 5% of the province's GDP. The main fishing grounds are the waters of the southeastern coast of Western Cape province, where the main catches are sardines, anchovies, and Cape hake. With slim chances for any increase in natural catches above the current level,

³⁵ DAFF, 2014, 'Trends in the Agricultural Sector', Promar Consulting, 2007, as above

³⁶ Business Day, 4 December 2015, 'Maize shortage puts food security at risk for millions', Bloomberg Business 27 January 2016 'Worst South Africa Drought in Memory Cuts 2016 Maize Crop 25%'

³⁷ USDA, 2015, Agricultural Biotechnology Annual
http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Agricultural%20Biotechnology%20Annual_Pretoria_South%20Africa%20-%20Republic%20of_7-14-2015.pdf

³⁸ DAFF, 2014, 'Trends in the Agricultural Sector', Promar Consulting, 2007, as above

³⁹ Promar Consulting expert interview

⁴⁰ DAFF, 2014, as above; USDA, 2015, 'The South African meat market'
http://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20South%20African%20meat%20market_Pretoria_South%20Africa%20-%20Republic%20of_9-15-2015.pdf

the fishery sector industry has turned its attention to aquaculture, with the culture of abalone, oysters, and mussels in particular expanding rapidly.

Food processing⁴¹

South Africa's food processing industry is very well developed, and plays an important role in creating jobs and sustaining economic growth. Over 1,800 companies are involved in food manufacturing. Food processing industry (foods and beverages) sales amounted to ZAR 390 billion in 2014, representing 21% of total manufacturing industry sales.⁴² The food processing industry is dominated by major food manufacturers, some South African and others foreign-owned. Many of these are conglomerates that have multiple food groups under their wing, and they handle everything from product manufacturing to retail.

Table 4 Production of Main Agricultural Products

	Production Area ('000 ha)					Production Volume('000t)				
	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
Cereal	3,548	3,210	3,867	3,993	3,998	14,699	12,919	14,266	14,873	17,275
Maize	2,742	2,372	3,141	3,250	3,300	12,815	10,360	11,830	12,486	14,982
Wheat	558	605	511	520	486	1,430	2,005	1,915	1,879	1,759
Sorghum	87	69	49	60	55	197	155	135	150	151
Pulses	67	65	64	65	65	74	63	72	72	74
Roots and Tubers	82	82	84	85	84	2,156	2,251	2,306	2,308	2,318
Oilcrops Primary	821	1,186	1,085	1,163	1,272	352	533	433	435	592
Soybean	311	418	472	517	503	566	710	650	785	948
Sunflower seed	398	643	500	505	599	490	860	630	557	832
Fruits	278	290	301	298	NA	5,948	6,132	6,300	6,421	NA
Grape	110	115	124	125	NA	1,743	1,684	1,839	1,850	NA
Citrus fruits	70	75	74	74	NA	2,125	2,330	2,314	2,407	NA
Vegetables	148	150	156	156	NA	2,620	2,607	2,747	2,765	NA
Nuts	5	5	5	6	NA	17	18	18	19	NA
Sugarcane	267	272	320	325	313	16,016	16,800	17,278	18,000	18,286

Source: FAOSTAT

Table 5 Production of Main Livestock Products

	('000 ton)			
	2010	2011	2012	2013
Beef	848	829	844	851
Pig meat	204	203	211	216
Poultry meat	1,472	1,486	1,489	1,497
Sheep meat	141	132	143	144
Milk	3,233	3,256	3,368	3,400
Egg	473	511	535	540

Table 6 Fish Catch in the Ocean Fishing(t)

	2010	2011	2012	2013
Fish	612,716	520,858	692,237	405,787
Crustacean	4,218	2,812	2,772	2,692
Shellfish	12,425	10,746	9,112	5,386

Source: FishSTAT

⁴¹ The food processing industry includes canned and cooked meat, dairy products, canned fruits and vegetables, marine products, plant and animal oils and fats, baked foods, confectionary, cocoa, roasted peanuts and other nuts, roasted coffee, blended and packaged tea, animal feed, beverages (spirits and wine), and soft drinks. USDA, 2013, 'Food Processing Ingredient Market Report'

http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Food%20Processing%20Ingredients_Pretoria_South%20Africa%20-%20Republic%20of_11-27-2013.pdf

⁴² Statistics South Africa, 2015 'Stats in Brief'

Source: FAOSTAT

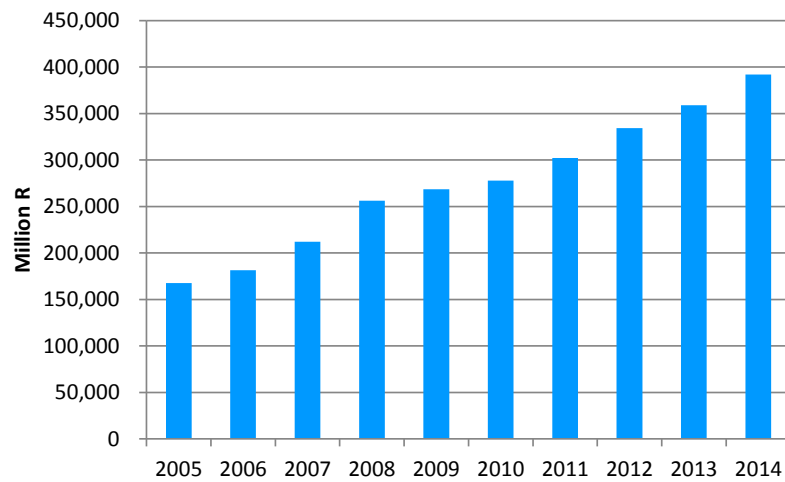


Figure 13 Sales Value of Food and Drink Manufacturing Industry

Source: Statistics South Africa

2.2 The South African Retail and Distribution Sectors

2.2.1 Retail Market Size⁴³

South Africa has the largest retail market in Africa. This market was worth ZAR 705.5 billion in 2014, approximately 50% of which was accounted for by retailers handling mainly foodstuffs, namely general supermarkets, grocery stores, and food and beverage specialty stores.⁴⁴ Although the mature retail sector is often said to be saturated, it posted annual growth of 2–6% between 2010 and 2014, and the growing middle class and thriving tourism industry are expected to fuel further growth particularly in the modern retail sector (supermarkets, convenience stores, and the like). Supermarkets and other modern retail outlets account for about 70% of South Africa's retail food sales, with traditional spaza shops (mom-and-pop stores) accounting for the remainder.

Disposable income in South Africa has increased in all income groups, with the middle class (and particularly emerging black middle-income earners dubbed “Black Diamonds”) driving personal consumption alongside high-income earners. Black middle-income earners have become the fastest growing social class, rising from 2.3 million in 2003 to an estimated 5 million today. The former black townships on the outskirts of cities, together with rural areas, are seen as the key to further retail growth. Retailers are seeking to win new consumers in the townships and major retailers, such as Shoprite are pursuing a strategy of opening stores in densely populated areas.⁴⁵

Demand for food services is also on the rise, driving expansion of the HORECA (hotels, restaurants, and catering) markets. The catering market is showing particularly impressive growth.

2.2.2 Traditional Retail

Although South Africa's retail market has undergone extensive modernization, traditional mom-and-pop stores known as spaza shops continue to be very popular to this day owing to their neighborhood proximity and willingness to sell goods in small quantities. There are some 130,000 spaza shops across the country. Spaza shops can trace their origin back to the Apartheid era when black businesses were restricted. To get around these restrictions, spaza shop owners ran their shops from home. Even after becoming legalized in the 1990s, they have continued to be run from home, or to occupy shacks or single rooms in buildings, selling mainly daily necessities.

Spaza shop prices tend to be somewhat higher than those of major supermarkets, and with modern supermarkets making inroads into the townships in recent years, retail competition is heating up. Spaza shops also compete with each other, and many owned by local black residents have been forced to close as a result of spaza shop owners of Somali and Pakistani descent buying goods in bulk to share among themselves and sell at very competitive prices.

Cafés and hawkers are also important components of the traditional retail market. Small-scale fishmongers, butchers, and other specialty stores frequently run by residents of Greek or Portuguese descent are also

⁴³ USDA, 2014, “South Africa Retail Foods”, USDA, 2015 “South Africa Retail Foods”, Statistics South Africa, 2015, “Retail Trade Sales (Preliminary)”

⁴⁴ “General dealers” and “Food, beverages and tobacco in specialized stores”

⁴⁵ USDA, 2014, Retail Foods

fairly common. While vegetables and other items may be sold in small roadside stalls, the kind of traditional open-air markets that are a common sight in other African countries are rare in South Africa.⁴⁶

The following is a summary of the types of business and other features of spaza shops, based on interviews carried out in Johannesburg and Cape Town.⁴⁷

⁴⁶ Promar Consulting interviews; USDA, 2014, as above; Institute for International Trade and Investment (ITI), 2014, 'African Consumer Market Outlook: Targeting Spaza Shops'
<http://www.iti.or.jp/flash185.htm>

⁴⁷ Promar Consulting interviews

Types of business:

- The most commonly sold goods are soft drinks, snacks (peanuts, candy, etc.), bread, maize meal, alcoholic beverages, sugar, cigarettes, and other non-perishables.
- Spaza shops rarely handle fresh foods, particularly in localities where major retailers have opened outlets nearby enabling the purchase of relatively fresh foodstuffs at reasonable prices.
- Spaza shops stock their shops only every few days, purchasing daily necessities at major retailers, and fresh fruit and vegetables at nearby supermarkets.
- They frequently borrow refrigerators/freezers supplied by soft drink or ice cream manufacturers, but since this limits them to selling only the manufacturer's brand, some shops buy their own refrigerators.
- Spaza shops are usually run from home or very close by, and often stay open until late at night. Some shops are converted containers.
- Advertising methods are limited, but Coca-Cola offers product billboards for displaying on the outsides of shops. Retail stores purchasing these boards can then buy stock at discounted prices.
- Spaza shops set themselves apart from large supermarkets by keeping long business hours, selling merchandise in small quantities, maintaining close ties with neighborhood residents, and being conveniently located.

Challenges:

- **Power outages and high electricity bills:** One small spaza shop had a refrigerator measuring about 0.5m x 2m, the monthly electricity bill for which came to about ZAR 2,800. Power outages are not uncommon.
- **Competition with other stores:** Competition is intensifying as immigrant-run spaza shops, combined gas station/convenience stores, and supermarkets are being set up in black neighborhoods.
- **Raising funds:** Raising funds to start a shop and to cover electricity and other maintenance costs is not easy. One small spaza shop found it difficult to borrow money from a bank to set up. After opening for business, it eventually managed to obtain a credit line of ZAR 5,000/month with a major wholesaler (Makro) by regularly purchasing merchandise from it and by becoming a familiar face. As a result, even if the shop lacks sufficient cash, it can purchase up to ZAR 5,000 worth of goods, and pay off its debt into Makro's bank account within the one-month repayment period.



Spaza shop

2.2.3 Modern Retail⁴⁸

The food retail market is dominated by five major retailers, namely Shoprite, Massmart, Pick n Pay, SPAR, and Woolworths. Shoprite and Massmart alone have a combined share of 50% of the market.

In addition to the major chains, there are many independent supermarkets and retail stores that endeavor to compete with the majors by cutting costs through affiliating with companies such as Unitrade Management Services Pty (Ltd) (UMS) that buy merchandise in bulk for distribution to their affiliates.

SPAR is the South African unit of a Dutch multinational retail chain, but the other majors are all locally owned companies. However, Massmart was acquired by Wal-Mart in 2011, and has received an injection of American capital. Although Wal-Mart's acquisition of Massmart was eventually approved by the Competition Commission of South Africa, the deal was fiercely opposed by government ministries and labor unions, and maybe as a result, there have since been no aggressive moves by foreign companies to enter South Africa's retail market.

Owing to South Africa's public safety issues, middle- and high-income earners tend to shop at huge hypermarkets or shopping malls located in cities or suburbs, and as the core tenants of such facilities, the major chains play a big role in the retail market. Mall of Africa, a new shopping mall located between Johannesburg and Pretoria that is slated to open in April 2016, has 130,000 m² of retail space. Woolworths, Game (Massmart), and other South African and multinational chains are all planning to open stores there.

The retail majors operate different brands to match different income levels, with Shoprite, for example, tailoring Checkers stores to relatively high-income earners, Shoprite stores to middle-to-low-income earners, and the U-Save chain to low-income earners. Woolworths targets high-income earners in southern Africa in many cases by displaying products with the same brand and logo, and by promoting organic foods.

The major chains operate many other kinds of stores in addition to supermarkets, including wholesale outlets,



Large shopping center



Massmart's supermarket "Game"



Processed foods section of a supermarket



Fruit and Veggie City retail shop who is also a wholesaler

⁴⁸ Promar Consulting interviews with retailers; USDA, 2014, "South Africa Retail Foods", USDA, 2015 "South Africa Retail Foods"

hypermarkets, convenience stores, and home improvement stores. They are also moving into other related businesses, creating an increasingly oligopolistic retail market across southern Africa. Shoprite, for example, operates drugstores, liquor stores, furniture stores and the Hungry Lion fried chicken fast-food chain. In the financial sector, it has also partnered with Western Union to offer money transfer services in some countries.

Led by Shoprite, the largest player, South African retail majors are also expanding aggressively into other African countries. Shoprite now operates in 14 countries with growing populations, disposable income, and GDP, including Zambia, Nigeria, and Angola. Pick n Pay, the second largest retailer in southern Africa, has expanded into Australia, and Woolworths is also operating through two subsidiaries in Australia, New Zealand, Singapore, and other APAC locations in addition to Africa and the Middle East. SPAR and Massmart operate mainly in southern Africa, with outlets in Botswana, Namibia, Mozambique, Swaziland, and elsewhere in addition to South Africa.

However, even for South African companies with their rich experience in doing business in Africa, expanding into other parts of Africa is fraught with risks related to political unrest, corruption, and other factors. Shoprite was the first player to establish itself in Nigeria's huge market, and has generated profits from dominating that market, but it withdrew from Egypt after barriers to free competition in the market forced the price of its products to rise. It was also forced to withdraw from Tanzania, where it had operated for over 12 years, due to corruption issues.

Table 7 South Africa's Major Supermarket Players

Company Name/Ownership	Sales (2013)/ Number of Outlets	Summary
Shoprite (SA)	9,058 Mil USD/ 2,177	The largest retail chain in Africa. It operates in 14 countries in Central/Southern Africa and parts of West Africa.
Massmart (SA/US)	6,882 Mil USD/ 376	The second largest consumer goods distributor in Africa. It operates in 13 countries in Southeastern Africa and parts of West Africa. It achieved price reduction by handling a wider variety of goods.
Pick'n Pay (SA)	6,109 Mil USD/ 1,076	Second largest retail chain in SA. Entered Australian and other markets since 1994 but has withdrawn from these markets. It has a large presence in the Southern Africa region.
The Spar (SA - Netherlands)	4,552 Mil USD/ 873	It provides wholesale and distribution services to those dealing with Spar brand in Southern Africa.
Woolworths (SA)	920 Mil USD/ 940	Sells food, clothing and financial services to high-end consumers.

Source: USDA, 2014, Retail Foods

http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Retail%20Foods_Pretoria_South%20Africa%20-%20Republic%20of_8-22-2014.pdf

All of the major retail chains have their own private brands of both domestically manufactured and imported goods ranging from wheat flour to rice, processed foods, and clothing. They handle imports of various kinds, including perishables. Shoprite, for example, imports foodstuffs from over 45 countries, with these imports accounting for between 10% to 20% of its food sales in South Africa. Imports from Europe are particularly popular, and also plentiful, owing to geographical and historical factors, and the impact of free trade agreements. Imports have declined in recent years owing to depreciation of the South African rand.

With the growing population of black middle class and young people, demand for convenient products is increasing. Processed and pre-cut foods that are easy to cook are popular, and supermarkets and

convenience stores are stocking them in increasing quantities.

South African consumer tastes are also diversifying, with Asian cuisine growing in popularity in recent years. Some retailers offer sushi packs using salmon or tuna, just one example of the way in which they are seeking to attract health-conscious consumers or those interested in the food and culture of other countries. Organic foods, gluten-free products, brown rice, soy milk, almond milk, and other products appealing to health-conscious consumers are also increasingly popular.



Delicatessen corner



Sushi is a popular product sold at supermarkets



Gluten-free pasta

Table 8 Price Comparisons of Common items at Major South African Retailers

Products	Woolworth	Game	Checkers	Food Lover Market	Shoprite	Macro
Whole Milk (UHT) 1l	15.95 (Full-cream fresh) 13.95 (bottle) 10.95 (paper pack)	13.99 (paper pack) 14.99 (paper pack)	14.99 (paper pack)	13.99 (bottle)	12.49 (paper pack) 13.99 (bottle)	14.95 (bottle)
Yogurt 500 g	18.95	*	21.99	*	*	*
Margarine 500 g	32.99 (Flora)	21.99 (Rama) 32.99 (Flora)	23.99 (Rama) 32.99 (Flora)	29.99 (Flora)	23.95 (Rama)	*
Sugar 2kg	24.95	24.99 (Selati) 28.99 (Huletts)	*	*	23.49 (Selati) 23.99 (Huletts)	24.95 (Selati)
Vegetable oil 2l	Sunflower oil 41.95 Canola oil 31.99	Sunflower oil 24.99 Canola oil 42.99	*	*	*	Canola oil 34.95
White rice 2 kg	*	19.99 (Tastic) 18.99 (Allsome) 22.99 (Spekko)	*	24.99	17.99 (Spekko) 19.99 (Allsome)	24.50 (Tastic) 21.95 (Spekko)
Maize flour 2.5kg	*	*	22.99	22.99	21.99	1kg x 10 bags: 78.95
Plain bread	12.95 Baguette 13.95	9.99 (700g)	11.99 (Blueribbon)	10.99-11.99 (Blueribbon)	10.99	10.75 (Blueribbon)
Banana 1kg	19.99	*	*	11.99	9.99	18.6
Onion 1kg	*	*	12.99	8.99	*	9.48

Tuna can (shredded, John West) 170g	*	14.99	*	*	12.99	*
Tomato sauce bean 410 g	9.95	6.99	*	*	7.99	*
Water (aQuelle500ml)	6.65	5.99	4.29	3.33	*	*
Biscuit 200g	*	13.99 (Butter biscuit Bakers)	*	*	6.99 (Marie biscuit Bakers blue label)	*

Source: Promar Consulting

Profile: Pick n Pay⁴⁹

With a 15% share of South Africa's food retail market, Pick n Pay is the country's second largest retailer (after Shoprite). It also operates outlets in other southern African countries and in Australia.

Over the past five years, it has been working to strengthen its South African retail business through its Pick n Pay Stores and Boxer brands. It is also actively expanding its business into neighboring countries, and has a 49% share in Zimbabwe's TM Supermarkets. It operates through both company-owned and franchise outlets, with a focus on groceries, clothing and sundries. Pick n Pay normally targets the so-called B group of consumers that excludes high-income earners, but some of its stores are seeking to emulate Woolworths and other retailers targeting somewhat higher-income earners.

One example, Pick n Pay on Nicol in the prime location of Sandton, the business and financial hub of Johannesburg, is a one-stop shop that includes restaurants and other retail outlets as well as a huge supermarket.

The Good Food Studio, which was launched about five years ago, Pick n Pay on Nicol holds various activities such as courses on sushi and Mexican cooking and new product launch promotion events. When its stores start offering new foods and products, Pick n Pay cultivates new customers by holding cooking courses in the Studio, while also creating recipes that use the new foods and serving them in its restaurants. Pick n Pay recently held a "Japan Expo" to introduce Japanese products, showcasing products from about 15 Japanese companies. It also brings together consumers for panel discussions so as to better understand their needs and tastes.

Pick n Pay personnel spoke in interviews about various improvements to their stores, but showed particular interest in packaging materials. For example, sushi is a luxury food, and personnel seek to use packaging of a quality and design that communicates a sense of luxury.



Supermarket store adjacent to the Good Food Studio



Sandwich corner



Sushi corner

⁴⁹ Promar Consulting interviews with retail industry insiders; USDA, 2014, Retail Foods

2.2.4 Logistics for modern retailing (supermarkets)⁵⁰

Major supermarket chains have their own distribution systems with modern warehouses and logistics centers for delivering products to outlets throughout the country. They have strong bargaining power, and while they purchase many products directly from manufacturers, they also obtain stock from wholesalers. No.1 retailer Shoprite has sought to cut prices and boost its competitiveness by deploying a state-of-the-art logistics system centered on four distribution centers in different parts of the country.



Shoprite's distribution center

Source) Shoprite website

To procure fruits and vegetables, buyers usually either purchase supplies directly from wholesale markets, or through intermediaries. Some supermarkets employ specialists charged with procuring food products at wholesale markets. It is rare for retailers to buy produce directly from farmers, but in such cases, the farmers generally also package the products.⁵¹ For processed foods, manufacturers invariably deliver directly to the distribution centers or warehouses of the large supermarket chains, which then distribute the product to their outlets.

Product traceability has become an important aspect of product management, and retailers are required to monitor the use of agrichemicals and fertilizers by farmers. Leading food processing companies such as Nestlé and Pioneer Foods that are key suppliers to major supermarket chains also ensure traceability by sourcing raw materials directly from contracted farmers.

South Africa's unstable power supply poses risks to all logistics operations, and major retailers protect themselves by having their own generators to cover themselves against power shortages.

Shoprite has built sophisticated distribution systems in each of the 14 African countries in which it operates, ensuring smooth distribution by securing its own supply chains through joint ventures with local logistics providers and other such means.

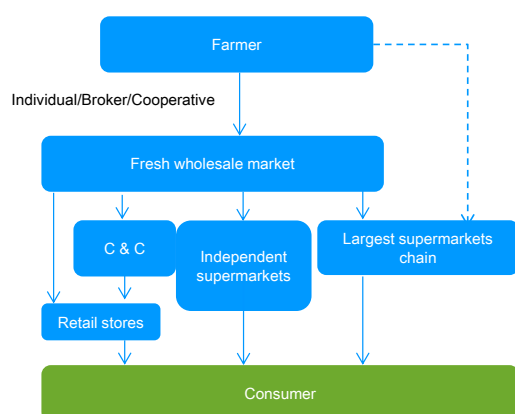


Figure 14 Fresh Produce Supply Chain

Source: Promar Consulting interviews with retailers

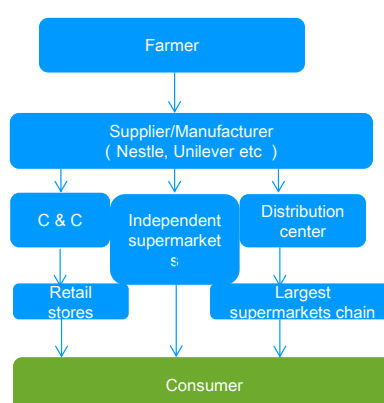


Figure 15 Processed Foods Supply Chain

⁵⁰ Promar Consulting interviews with retailers

⁵¹ Where retailers purchase vegetables directly from farmers, they generally exchange formal written contracts, and set prices and other terms prior to harvest. Insurance policies covering against price fluctuations are available, but owing to their relatively high price, few farmers take advantage of them.

Profile: Central Wholesale Market (Joburg Market)⁵²

There are 21 fresh produce wholesale markets in South Africa. Joburg Market, which is wholly owned by the city of Johannesburg, is Africa's largest market. Founded in 1893, it was originally a place where people came to barter, but now handles both domestic and imported produce on a site covering 64 ha. Joburg Market has a share of about 42% of the domestic market, followed by Tshwane Market with 17%, and Cape Town Market with 12%.

About 50% of the fruit and vegetables grown in South Africa are sold through the fresh produce wholesale markets, with Joburg Market handling a quarter of that 50%. Joburg Market's annual trading volume is about 130 million tons, with sales approaching ZAR 6 billion in recent years. There are trading stations within the market for trading in specific categories such as vegetables, including onions/potatoes, fruits, and processed foods, and other facilities such as a banana ripening warehouse and refrigerator rental service. A 5% commission is levied on all sales within the market.

Neighboring countries also use Joburg Market, carrying goods via the City Deep railway terminal adjacent to the market. However, China is building a fresh produce wholesale market in Mozambique, and this may come to compete with Joburg Market in the future.

95% of the agricultural produce sold in the market is supplied by commercial farmers. The market also handles imports, including bananas, apples, and oranges from Mozambique, kiwi fruits from New Zealand, and pears from China.

The main stakeholders of the wholesale market are producers (estimated 5,000 farmers), market agencies (16 companies, six of which are Black Economic Empowerment (BEE) companies. Their membership is made up of agents handling different products.), and buyers (ordinarily 11,000/day, but 20,000/day in the busiest periods).

Quality management is one of Joburg Market's most important roles. Products are regularly inspected in the on-premise laboratory, and sellers are forced to destroy products of dubious quality. However, such products make up less than 1% of the total.

Payments in the wholesale market are settled immediately, with no credit transactions allowed. Transactions are money-less, with payments being made using swipe cards charged with cash.



Joburg Market

⁵² Promar Consulting interviews with market insiders

Foreign traders in the wholesale market⁵³

A significant number of buyers from Botswana, Zimbabwe and other neighboring countries visit the wholesale market to purchase produce. One trader of Greek origin from Zimbabwe was buying produce for SPAR (a leading retail chain) outlets in Zimbabwe, Namibia, the Congo, and other locations. Because prices of goods fluctuate on a weekly, monthly and yearly basis, such buyers follow trends closely and time their purchases accordingly. Prices tend to rise in winter when vegetables are in short supply. As an example of purchase price in the wholesale market, a 6 kg box of fresh tomatoes was selling for ZAR 90 (approx. US\$6) at the time of the interview, but depending on the destination country, this retail price might double owing to transportation costs and customs duties. It takes a refrigerator truck about three days to travel from Johannesburg to Harare, Zimbabwe's capital. The stretch from Johannesburg to the border takes about 10 hours, with the rest of the time taken up with customs clearance at Beitbridge Border Post and overland travel to Harare.

2.2.5 Food services⁵⁴

Food services industry

South Africa's food services industry is the largest in sub-Saharan Africa, and continues to grow hand-in-hand with the country's world-famous wine and cuisine, and its tourism industry, a key driver of its economy. According to Statistics South Africa, South Africa's food services industry grew by 11.5% over 2013-2014. The takeaway and fast food sector accounted for a large share of this growth, but restaurants, cafés, and catering services are also expanding.

In the restaurant sector, some foreign companies have entered the market, but domestic restaurant chains such as Spur Steak Ranches (Spur Corp) and fast food chain Nando's have a large presence.

The catering industry is also expanding, fueled by changes in eating habits, with the Compass Group, Air Chefs, and other players posting high growth. This in turn is driving up demand for truck transportation and other logistics.

Tourism

The number of foreign tourists visiting South Africa has risen steadily since Apartheid was abolished in 1994, reaching 9.6 million visitors in 2013. Over 30,000 hotels cater to these tourists. The wildlife, historical sites, and natural wonders scattered throughout the country attract tourists throughout the year, and tourism and the hotel industry are expected to continue to grow steadily irrespective of the otherwise stagnant domestic economy.



Cape Town, a popular tourist destination

⁵³ Promar Consulting trader interview

⁵⁴ USDA, 2014, Exporter Guide, USDA, 2014, "South Africa HRI Sector Report", Promar Consulting interviews with experts

2.3 Business Development and Foreign Investment in South Africa's Food Value Chain

2.3.1 Recent foreign investment trends related to South Africa's FVC

Major foreign-affiliated companies

South Africa has a mature food industry, with Nestlé (Switzerland, food and beverages), Unilever (UK, processed foods), Coca-Cola (USA, beverages), Dole (USA, fruits), Parmalat (Italy, dairy products), McCain Foods (Canada, snacks), Danone (France, dairy products), Best Foods (USA, mayonnaise), Frito-Lay (USA, snacks), Associated British Foods (ABF, UK, food, agriculture, and retail) being among the many major foreign players in the market.⁵⁵

These foreign companies have been investing in South Africa in recent years in anticipation of further growth in the markets both of South Africa and of Africa as a whole. In 2015, Unilever poured approximately ZAR 500 million into the expansion of its Indonsa food processing plant in Durban, and constructed a state-of-the-art ice cream factory on the outskirts of Johannesburg. Unilever has in recent years invested over ZAR 4 billion overall in plants with the aim of growing its South African business as the nucleus of its business throughout the whole continent.⁵⁶ In 2014, Coca-Cola also announced plans to establish Coca-Cola Beverages Africa as a joint venture with SAB Miller (UK) and Gutsche Family Investments (South Africa). If the joint venture materializes, it will herald the birth of Africa's largest soft drink bottler, with headquarters located in South Africa.⁵⁷

In the sugar sector, one of South Africa's most important industries, the British food and agriculture major ABF acquired a 51% share of Illovo Sugar Limited, Africa's largest sugar manufacturer, in 2006, and has reportedly offered to buy the remaining shares in 2016.⁵⁸

In the retail sector, Wal-Mart (USA) acquired the major supermarket Massmart in 2011, but no significant foreign entries into South Africa's retail market have happened since then. To bolster its business base in the countries of southern Africa, Massmart/Wal-Mart has invested in wholesale and retail chains in 13 countries.⁵⁹ Botswana retail major Choppies entered the South African market in 2008, and subsequently raised capital to expand its presence to 35 outlets today.⁶⁰

In the food services industry, a number of café and doughnut chains have entered the market. South Africa's Grand Parade Investments signed a licensing agreement with Dunkin' Brands (USA) in 2016. Another American doughnut chain, Krispy Kreme, opened its first South African outlet in Johannesburg in 2015. Likewise, French bakery chain Paul and American coffee chain Starbucks are both planning to open their first South African outlets in 2016.⁶¹

There have been few investments in agriculture by foreign-owned companies, but one example is the 2013

⁵⁵ USDA, 2014, Exporter Guide

⁵⁶ Unilever website: "Unilever invests R511 m in Indonsa Factory"

⁵⁷ SabMiller website: "SABMiller, The Coca-Cola Company and Coca-Cola Sabco to form Coca-Cola Beverages Africa"

⁵⁸ Bloomberg February 8, 2016 "AB Foods Makes Offer for Rest of South Africa's Illovo Sugar"

⁵⁹ USDA, 2013, 'Food Processing Ingredients Market Report'

⁶⁰ FoodStuff South Africa May 12, 2015 "New food retailer to list on JSE"

⁶¹ FoodStuff South Africa

purchase of a 25 ha vineyard in Western Cape province by Perfect (China) Co., Ltd., a Chinese vendor of health foods and other products that is aiming to expand exports of wine to China and other East Asian countries.⁶²

2.3.2 Major South African Companies⁶³

As described above, foreign-owned majors are moving increasingly into South Africa's food processing industries, but South African companies are also major players in the milling, sugar, horticultural crops, meat, food processing, and other sectors.

In the milling industry, a number of domestic companies, including the industrial-use miller AFGRI and the consumer-use manufacturers Premier Foods and Pride Milling, handle maize flour, wheat flour, and other milled products. Premier Foods has a distribution depot in addition to bakeries and mills, and has been diversifying, for example, by expanding over the past two years into confectionery with its Manhattan and other brands.

Illovo Sugar Limited is the largest player in the sugar industry. As South Africa's top refined sugar manufacturer, Illovo manufactures a variety of related products. It is also the largest such manufacturer in Africa as a whole, with a presence in other countries in southeastern Africa. Tongaat Hulett Sugar is also a major player that manufactures animal feed as well as sugar, and has investments in the sugar industries of Swaziland and other African countries.

In the fruit and vegetables sector, the citrus fruit and subtropical fruit markets in particular are the exclusive domain of local companies. In the citrus fruit market, Capespan, a company born from the privatization of the former government marketing board, is a particularly major presence in the grapefruit segment that has marketing subsidiaries in various countries, including Japan. The fruit canning industry has become increasingly oligopolistic, particularly in the Western Cape province with its thriving peach and apricot cultivation industries. The company Langeberg and Ashton Foods has a large market share. This company was established in 2005 through the merger of Langeberg Foods International, a subsidiary of the packaged foods manufacturer Tiger Brands and at the time South Africa's leading fruit canner, with Ashton Canning, the country's third largest fruit canner. The province of Eastern Cape is famous for pineapple production, and Summerpride Foods is the major pineapple player.

KWV is a major grape juice producer who also exports its products. It was established by wine producers as a cooperative. Ceres Fruit Processors is a major player in the apple, pear, and other deciduous fruit juice markets, with Granor Passi and several other companies also each having a large presence. Granor Passi has a large share of the citrus juice market.

In beverages, South African Breweries, a subsidiary of SAB Miller, is a beer brewing and bottling company with a very large share of the market. Its soft drinks division, Amalgamated Beverage Industries, is a major producer and distributor of Coca-Cola brand products. Ceres, Appletiser, and Berfin are leading manufacturers of fruit juice packed drinks for consumers.

For meat, Karan Beef and Beefmaster are among the larger vendors of beef products. In the broiler industry, Rainbow is the largest poultry processing and marketing company in South Africa, and maintains its own supply chain covering all stages from production to processing. As an example of increasing

⁶² South Africa Info August 2, 2013 "China invests in South African Wine"

⁶³ Promar Consulting, 2007, as above, company websites, USDA, 2014, Exporter Guide

vertical integration, South Africa's largest poultry producer, Astral Foods, has an equity share in a poultry feed mill together with the Department of Trade and Industry.

The Oceania Group is the largest presence in South Africa's fishery industry, but Foodcorp, the country's third largest food company, is also a major player.

In the food processing sector, Tiger Brands, a producer of various food and beverages, is the biggest domestic presence, with Pioneer Foods (food and beverages), Clover SA (dairy products), and RCL Foods (foods) also having large shares of the market.

2.3.3 Support for small-scale farmers/social businesses in FVC by major players⁶⁴

Supporting small-scale farmers and SMBs and improving their market access are recognized as challenges common to South Africa's food and retail industries, and industry majors are endeavoring to support such small-scale players through inclusive businesses and CSR initiatives.

While South Africa's commercial farmers are doing well, small-scale farmers are struggling, and this gap is widening. In particular, enabling black farmers to participate in the commercial farming sector is a major challenge in the agriculture of post-apartheid era South Africa. In the past, farming cooperatives oversaw quality management while leveraging economies of scale to share the cost of silos, packaging, and the like between farmers, but with the deregulation carried out in the 1990s, these cooperatives ceased to function, and retailers have since been forced to negotiate with individual farmers. This presents problems for retailers, since small-scale farmers and businesses are not always able to meet their volume and quality requirements.

The following are key examples of initiatives taken by major retailers.

- **Massmart/Wal-Mart** has partnered with the NGO TechnoServe to improve market access for small-scale farmers by providing 1 million such farmers with training in production technology and marketing.⁶⁵
- **Shoprite** is endeavoring to incorporate small-scale farmers into its distribution network as part of its CSR strategy by such measures as nurturing small-scale farmers around its outlets and allowing smallholders to use its warehouses. In Zambia, where it has been operating for more than 20 years, it also offers training and advice on seed selection to local farmers.
- **Pick n Pay** works through farmers unions to provide citrus fruit and fresh vegetable producers with technical training and help in digging wells. It has also established a mechanism whereby it sets its own product standards for SMBs, and purchases products that meet those standards.

Supporting small-scale farmers and SMBs is, however, an issue that needs to be addressed not only by retailers, but by the country as a whole, and the South African government is also focusing resources on such support.

⁶⁴ Promar Consulting, interviews with retail industry insiders

⁶⁵ USDA, 2013, 'Food Processing Ingredients Market Report'

2.4 South African Policy Related to the FVC

In its 2010 New Growth Path (NGP) and 2012 National Development Plan: Vision for 2030 (NDP) that laid out general economic and social targets up to 2030, the Zuma administration cited investment in the development of infrastructure and human resources, and the smoothing of relationships between the private sector and labor unions as measures required to help achieve its goals of boosting employment and of creating a more equitable society. Based on the NDP, the government draws up a yearly Industrial Policy Action Plan (IPAP)⁶⁶ that together with Broad-Based Black Economic Empowerment (B-BBEE, see section 1.2.2) constitutes the milestone of government policy for driving the country's industrialization.

Agricultural Policy

Agriculture is positioned within both the NDP and NGP as being crucial to creating jobs and to ensuring food security. In his 2015 State of the Nation address, President Zuma cited stimulation of agriculture and the agricultural processing value chain as a priority.

Based on the Medium Term Strategic Framework 2009-2014 for executing these basic policies and the NDP, the government formulated the Integrated Growth and Development Policy (IGDP)⁶⁷ in 2012 as a long-term strategy for developing the agriculture, forestry and fishery industries. Regarding specific sectoral interventions and transversal interventions, the government has announced its five-year Agricultural Policy Action Plan (APAP) 2015-2019.⁶⁸

The APAP cites increasing crop (wheat) and livestock (poultry) imports, and increasing dependence on imported agricultural inputs (fertilizer, feed, machinery) as cause for concern in agriculture in recent years, and calls for greater use of local products in fields with growth potential. It also emphasizes that not only large-scale farmers and big businesses, but also small and medium-sized players can participate in the market and contribute to local development and the elimination of poverty. Based on this background, the APAP identifies the following as sectoral priority areas from the perspectives of food security, job creation, potential for growth, and potential contribution to trade balance (including import substitution).

- Integrated red meat value chain
- Integrated poultry value chain
- Fruits and vegetables
- Wine
- Wheat
- Fisheries (aquaculture and small-scale fisheries schemes)
- Biofuel

Regarding issues common to all sectors, the APAP cites the impact of continuing market consolidation on job creation and sets the goal of developing local food networks through developing infrastructure and intensifying its support for cottage industries, SMBs and small-scale producers involved in agriculture, forestry, and fishery value chains; and aiding their participation in the market. More specifically, the APAP proposes the following as cross-sectoral priorities.

⁶⁶ Latest IPAP: dti, 2015, 'Industrial Policy Action Plan 2015' <http://www.thedti.gov.za/DownloadFileAction?id=1017>

⁶⁷ DAFF, 2012, IGDP <http://www.daff.gov.za/docs/Policy/IGDP121.pdf>

⁶⁸ DAFF, 2014, APAP <http://www.agrisa.co.za/wp-content/uploads/2014/10/011-APAP-AgriSA.pdf>

- Fetsa Tlala (integrated government initiative to strengthen food security)
- Promotion of climate-smart agriculture
- Trade and agribusiness development and support
- Biosecurity
- SIP 11 (described below)
- Research and innovation
- Land reform

Food processing

South Africa's Department of Trade and Industry has identified the following areas as presenting agro-processing investment opportunities: food processing in the milling and baking industries; beverages (fruit juices using domestic produce, and packaging and export of indigenous teas); high-value natural fibers (organic cotton, mohair production); high-value organic food for the local and export market; processing of oilseeds, tea extracts (honeybush), avocado, amarula and utilization of biomass⁶⁹

In the agro-processing sector, IPAP 2015 also calls for the development of infrastructure for the transportation, storage, and packaging of export goods, establishment of a pilot domestic agri-business hub (shared warehouses etc.), commercialization of cassava for industrial starch, development of small-scale dairy processors, development of the fishery sector, promotion of local foodstuffs through the "Eat Well, Eat Safe, Eat Local" awareness campaign, poultry sector development, and establishment of a Halal Products Supplier Park.⁷⁰

Incentives related to investments in the food processing sector are provided by the Department of Trade and Industry and the Industrial Development Cooperation (IDC) under the Economic Development Department at the central level and by provincial investment and trade promotion agencies. The Department of Trade and Industry implements the "Manufacturing Competitiveness Enhancement Programme (MCEP)" which is one of the key programs of IPAP and supports manufacturers through providing loans for activities such as upgrading production lines. IDC also provides incentives such as preferential interest rates for investments of a certain size in agricultural processing and aquaculture products⁷¹

At the provincial level, Eastern Cape Development Corporation (ECDC), WESGRO, Trade & Investment KwaZulu-Natal (TIKZN) and Mpumalanga Economic Growth Agency (MEGA) put relatively strong emphasis on the food processing sector.⁷²

For example, WESGRO focuses on inviting foreign investment in the fast-growing agro-processing and aquaculture sectors. In addition to providing incentives such as tax incentives, it works toward establishing networks with foreign private companies, embassies and the chambers of commerce of various countries. Recently, WESGRO staff has visited Japan to meet with major food processing companies to link Japanese technologies and machineries to the development of the South African food processing sector. WESGRO also works to attract private companies to establish their headquarters in the Western Cape.

⁶⁹ dti, Sector Opportunities http://www.thedti.gov.za/trade_investment/sector_opportunities.jsp

⁷⁰ dti, IPAP 2015 <http://www.thedti.gov.za/DownloadFileAction?id=1017>

⁷¹ dti, 2014/15 "South Africa: Investor's Handbook 2014/15"

https://www2.deloitte.com/content/dam/Deloitte/za/Documents/tax/ZA_DTI-InvestinginSA_2014-15.pdf

⁷² DAFF, 2012, "An overview of incentives theory and practice: A focus on the agro-processing industry in South Africa" <http://www.nda.agric.za/doaDev/sideMenu/AgroProcessingSupport/docs/An%20overview%20of%20incentive%20theory%20and%20practice%20A%20focus%20on%20the%20agro-processing%20industry%20in%20South%20Africa.pdf>

Norwegian CG Rieber, which produces energy bars and health foods, has moved to a business park in the Cape Town. Also, Grand Parade Investments, which owns the franchise rights to Burger King in South Africa, has been building a patty meat manufacturing factory in the Western Cape.⁷³

Infrastructure policy

Investment in electric power, water, IT, public transport, and other infrastructure is cited in both the NDP and the NGP as being vital to the national economy in terms of driving job creation, comprehensive economic growth, and trade competitiveness as well as in terms of supplying services. In 2011, the Presidential Infrastructure Coordinating Commission (PICC) was established to promote strategic public investment by coordinating with relevant government departments. In 2014, the Infrastructure Development Bill (IDB), which positions PICC and the National Infrastructure Plan (adopted in 2012⁷⁴) at the core of infrastructure development coordination and promotion, was signed into law to speed up related regulatory decision-making processes and to implement strategic infrastructure projects. With the IDB, the government aims to leverage strategic integrated projects (SIPs, see table below) support the goals listed in the National Infrastructure Plan and to facilitate their implementation and evaluation.⁷⁵ Note that the government is currently putting finishing touches to its National Transport Master Plan 2050 (NATMAP 2050), a comprehensive long-term transportation plan encompassing various modes of transport.

The South African government has announced plans to allocate ZAR 813 billion for infrastructure development over three years from 2015. The state-owned power company Eskom will spend most of its share on energy infrastructure. Transportation and logistics, including modernization of the freight rail network that carries coal, iron ore, manganese, and other minerals, account for over 40% of infrastructure spending, with energy, water, and sanitation also receiving comparatively large allocations. In response to criticism that poor management has led to delays and cost overruns in its infrastructure development, the government will seek to improve efficiency by promoting private sector investment.⁷⁶ In summit meetings held in 2013 and 2014, Japan's Prime Minister Shinzo Abe and South Africa's President Zuma discussed the strengthening of bilateral relationships with the top priority on infrastructure development.

Table 9 Strategic Integrated Projects

1	Unlocking the Northern Mineral Belt with Waterberg as the Catalyst
2	Durban- Free State– Gauteng Logistics and Industrial Corridor
3	South Eastern node & corridor development
4	Unlocking the economic opportunities in North West Province
5	Saldanha-Northern Cape Development Corridor
6	Integrated Municipal Infrastructure Project
7	Integrated Urban Space and Public Transport Programme
8	Green Energy in support of the South African economy
9	Electricity Generation to support socio-economic development
10	Electricity Transmission and Distribution for all
11	Agri-Logistics and Rural Infrastructure

⁷³ Promar Consulting interview with WESGRO

⁷⁴ Reference: Government of South Africa, National Infrastructure Plan, <http://www.gov.za/issues/National-infrastructure-plan>

⁷⁵ Economic Development Department, Inside the IDB <http://www.economic.gov.za/inside-the-idb>

⁷⁶ eNCA, February 2015, 'Billions to be spent on infrastructure: Nene'
<https://www.enca.com/south-africa/billions-be-spent-infrastructure-nene>

12	Revitalisation of public hospitals and other health facilities
13	National school build programme
14	Higher Education Infrastructure
15	Expanding access to communication technology
16	SKA & MeerKat
17	Regional Integration for African cooperation and development
18	Water and Sanitation Infrastructure Master Plan

Source: SA Economic Development Department

AgriBEE Policy⁷⁷

In South Africa's Apartheid era, black people were compelled to move to the so-called homelands and as a result, many blacks lost their land, or were forced to farm on inferior and insufficient land. Distribution was also monopolized by marketing boards, alienating black farmers from commercial production. Affirmative action and reducing disparities is a major challenge for South Africa, which has implemented a series of policies related to land reform and transfer of farm ownership.

Among these policies, the Broad-Based Black Economic Empowerment Framework for Agriculture (AgriBEE) enacted in 2004 represents the application to the agricultural sector of the South African government's Broad-Based Black Economic Empowerment (B-BBEE)⁷⁸ policy for improving the economic power of the country's black population. B-BBEE sets specific numerical targets for each of the following seven areas.

- Transfer of ownership of agricultural land
- Skills development through education, etc.
- Equal opportunity employment
- Transfer of business ownership
- Equality in procurement and contracts
- Expansion of agriculture extension services
- Monitoring, evaluation, and reporting

However, because the transfer of agricultural land in South Africa is being carried out through voluntary sale or compensation, rather than through forced seizure, achievement of targets remains at a low level. Also, the sheer scale of commercial farming makes it almost impossible for individuals lacking funds to obtain land or management control on their own. As a result, many cases of land acquisition involve large groups of individuals, making reaching consensus difficult. Moreover, modern, large-scale farm management requires a high level of knowledge and technology, and reckless entry by new players frequently results in rapid failure. South African agricultural organizations have to date clocked very few successes, with the exception of sugar as well as small-scale beef and dairy cattle husbandry, both sectors in which production by black farmers was important before reforms were introduced.

As these policies show, the South African government has put priority on the transfer of commercial farmland and business ownership, and on employment as means of ensuring equal access and

⁷⁷ Promar Japan, 2007, FY2006 Research and Analysis of Free Trade Agreements: Study of South Africa's Agriculture, Forestry and Fisheries Industries

⁷⁸ Broad-Based Black Economic Empowerment (B-BBEE), which seeks to improve the economic lot of as broad a spectrum of the black population as possible, was introduced in response to criticism that its predecessor, Black Economic Empowerment (BEE), enriched only a fraction of blacks as a result of its narrow focus mainly on management representation.

participation, and does not treat the development of traditional subsistence farming as an important target. Japanese researchers of South African agriculture consider that the government is unlikely to implement policies for enabling small-scale farmers to become self-reliant, given its record to date of equating agricultural production almost exclusively with large-scale commercial farming. Another factor, given the nature of South Africa's soil and water resources, is the unlikeliness of government policies to boost crop productivity through labor-intensive Asian-style water management and large-scale fertilizer usage.

Some researchers of South African agriculture contend that more forceful measures will be required to effect transfer of farmland ownership in view of the lack of progress achieved through voluntary sales. Studies have also shown that opinion is divided even within South Africa, with the black population showing, if anything, a stronger desire for employment opportunities and better education rather than for the redistribution of agricultural land.

3 SOUTH AFRICA'S FVC BY SECTOR AND OPPORTUNITIES FOR JAPAN

This section outlines the market entry opportunities for Japanese companies in the South African FVC. The analysis is based on two perspectives: 1) product-specific sectors, including cereals, dairy farming, aquaculture, and fruit, as well as 2) cross-sectoral areas, including agricultural inputs and machinery.

3.1 Japan's interest in the South African FVC

3.1.1 Overview of Japanese Companies in the Market

As of 2015, 280 Japanese companies have entered the South African market. In 2014, the amount of investment by Japanese enterprises in the market had increased to almost JPY 180 billion. Currently, there are approximately 1,400 Japanese expatriates living in South Africa.⁷⁹ Japanese companies have penetrated various fields, including automotive, household electronics, natural resources, papermaking, IT, daily goods, financial services, and the medical-related sector. Many of these companies have a base in South Africa from which they access other African countries.

The table on the next page summarizes examples of Japanese companies' involvement in the South African FVC. We identified 5 patterns for involvement in the FVC, which are described in (a) through (e) below. Pattern C relates to imports of agricultural products — Japan imports a variety of agricultural products and food products from South Africa, including maize, citrus fruits, sugar, wine, and marine products. However, companies only doing importing were not included in the scope of this research. Other than importing, the most common type of market penetration for Japanese companies is type (b): sales of agricultural machinery, horticultural seeds, agrochemicals, as well as sales of food production equipment, cold-storage and freezing equipment, packaging manufacturing machinery. Category (a) includes sales of final manufactured products and materials for the food processing industry. Recently there have been some examples of Japanese businesses entering the South African market using this pattern: approximately 15 companies took advantage of the food studio that the large retailer Pick n Pay is managing (refer to section 2.2.3) to exhibit Japanese products.⁸⁰ There are no examples of companies entering the South African market following the strategies explained in (d) and (e).

- a) Supply of final manufactured products (processed food, beverages, and seasoning) and food processing ingredients (food flavorings and additives) for sale in South Africa;
- b) Export from Japan and provision of intermediary and capital materials for the agricultural, fishery sector and food sectors in South Africa (fertilizers, agrochemicals, seeds, agricultural machinery, food manufacturing machinery, greenhouse facilities and packaging)
- c) Imports of agricultural products and raw materials from South Africa and to sell in a processed form

⁷⁹ JETRO, as of September 2015, Overview http://www.jetro.go.jp/world/africa/za/basic_01.html

⁸⁰ Promar Consulting, interviews with concerned organizations

in Japan;

- d) Entry into the South African service sector (distribution, restaurants, logistics, and IT)
- e) Entry into the agricultural and fishery sector and the food processing sector in South Africa (establishment of companies, JV, acquisition of companies).

The challenges to support small-scale farmers by South African companies were touched upon in Section 2.3.3, but there are also cases of Japanese companies implementing initiatives to address South African social issues through their businesses.

For example in 2012 Sakata Seed Corporation adopted ideas from the JICA Preparatory Survey (for promotion of BoP business collaborations) it conducted called the “Sakata Vegetable Institute: F/S survey on BoP Business on Incubation Program for Emerging Small-scale Vegetable Farmers through Production and Business Training which prepared it for businesses targeting the BOP market, centered around black farmers as a potential market. While collaborating with NGOs such as Techno Serve, Sakata Seed Corporation is providing vegetable cultivation technical advice to newly hired farmers, and in cooperation with the NPO PlaNet Finance Japan, offering microfinance services for management and reinvestment of farm capital.⁸¹

In the water resources sector, due to the impact of the recent droughts, in 2013, Hitachi Ltd. started a promotion project to diffuse an energy-saving seawater desalination system in Durban, as a promotion project to spread JICA's private sector technology. Furthermore, focus has also been put on counter-measures for saving energy, reducing the environmental burden and reducing costs. Another project was by Toray: in 2012 it conducted a survey to promote the replanting and conversion of desert land and devastated land to arable land, as part of a feasibility study by the Ministry of Economy, Trade and Industry.

Table 10 Key Japanese companies conducting business in South Africa

	Company	Business Activities	Overview
Provision of final product and raw materials for food product in South Africa	Suntory	Import and sales of energy drinks and sports drinks	Importing of Lucozade, an energy/sports drink, and Ribena, a branded juice, by Lucozade Ribena Suntory (UK). After Suntory acquired Glaxo Kline Smith (UK) in 2014, it also took over these two brands.
	Takasago International Corporation	Sales of food flavorings and essences	Established a local sales entity in South Africa, which sells food flavorings and essences.
Provision of agricultural inputs and agriculture, and food-product	Ishii Seed Growers Co., Ltd.	Sales for seeds	Export of cabbage seed varieties.
	Sakata Seed Corporation	Production and sales for horticultural seeds	In 1999, the vegetable seedlings company, Mayford, became a wholly-owned subsidiary (eventually assuming its current name, Sakata Seed Corporation), with bases in Eastern and Southern African regions, having a growth, production, distribution, and sales network. The total number of employees is approximately 120. In addition to vegetables seeds (such as pumpkin, cabbage, and tomatoes), it

⁸¹ “Introduction of Sakata Seed’s Business in Africa”

https://www.jetro.go.jp/ext_images/world/africa/seminar_reports/pdf/20130226_2.pdf, Sakata Seed/Planet Finance Japan, 2015, “Republic of South Africa Preparatory Survey on Incubation Program for Emerging Small-scale Vegetable Farmers through Production and Business Training” http://open_jicareport.jica.go.jp/pdf/12233052.pdf

machinery			also sells seeds for flowers, grass, and pasture.
	Sumitomo Chemical	Sells agrichemicals, pesticides, and feed additives	In 1999, due to a merger with Sumitomo Corporation (80% of capital from Sumitomo Chemical, 20% from Sumitomo Corporation), the current entity, Philagro South Africa, was established (acquisition of agricultural departments of Abbott Laboratories and Valent Biosciences, too). It conducts sales, technology dissemination, and development of agrichemicals, household and industrial pesticides, and feed additives.
	Sumitomo Corporation	Sells agrichemicals	Capital from agrichemical selling company, Philagro. Established a branch office in Johannesburg in April 2014 to strengthen its network in sub-Saharan Africa, and established a local entity, Sumitomo Corporation Africa Pty Ltd
	Kubota	Sells farm machinery	Sells farm machinery through its local distributor, Smith Power Equipment.
	EMROSA	Sells agricultural materials	Sells agricultural materials. Based on the execution of a know-how contract with South Africa in 2001. EMROSA manufactures and sells agricultural materials (liquid of molasses taken from sugar cane and fermented by effective microorganism (microorganisms such as lactic acid bacteria, yeast, and photosynthetic bacteria)). In 2012, this company discontinued its manufacturing, but MICROZONE continued the business thereafter.
	Fuji Bussan	Sales of feed	In addition to tuna feed for Japanese fishing boats, also conducting business for shipping fuel oils, food products, manning, and overseas replenishment. Opened an office in Cape Town in 1986.
	Sun Ace	Manufacturing and sales of food additives and cattle feed additives	Manufacturing and sales of food additives and cattle feed additives, etc. Entered the South African market in 1996. Established a plant in South Africa in 2003, and increased and transferred its facilities in 2007.
	Mayekawa MFG	Sales of refrigerating and freezing machinery	Set up a distributor in South Africa for its refrigerating and freezing machinery, and sales to South Africa and countries in sub-Saharan Africa.
	Nippon Steel & Sumitomo Metal	Sales of tinplates for food canning	Entered an agreement in 2005 for long-term stable supply of tin plates for food canning with Nampack Products Limited, Africa's largest general can manufacturer. Aims to increase the demand for tin plates for food caning, which is expected to grow in the future.
	Nissei ASB Machine	Sells of packaging materials manufacturing machinery	Sales of stretch blow molding machines (pet bottle container molding machines), and provision of services therefor.
	Rheon Automatic Machinery	Sales of food automated mold machinery	Export and sales of automated mold machinery, such as cookie and pan hot dog manufacturing machinery, etc.
Imports of agricultural and marine products from South Africa	Yanagiya	Sales for food manufacturing machinery	Sales of crab/fish cake manufacturing machinery.
	Taiyo A & F	Fishery sector	A group company of Maruha Nichiro. Through a merged business with a South African local entity in 1996, started longline fishing of seabed in southern waters, and caught seabass. From 2003, started independent operations as a registered Japanese fishing boat. Set up an office with resident employees in Cape Town.
	Kintoki Foods	Production and exports for agricultural products	Production of organic agricultural products, and imports them into Japan.

Source: "List of Japanese Enterprises Doing Business with African Continent and Countries"

http://www.afdb-org.jp/file/japan/List_ofJapanese_Enterprises_jpn.pdf, company websites

3.1.2 Overview of agricultural trade between Japan and South Africa

Japanese imports from South Africa

Imports of agricultural goods and food-related products from South Africa to Japan were valued at USD 420 million in 2014, and they accounted for 4.6% of the total trade value. The main import categories were: maize; sugar; citrus fruits, including grapefruits; processed fruits and vegetables, including canned goods; wine; seafood (lobster); and peanuts, etc. The maize harvest varies greatly depending on the year, and in 2013 when the impact of the drought in the United States caused cereal prices to rise dramatically, Japan's imports of South African maize reached approximately 750,000 tons, but in 2014, this figure fell to approximately 200,000 tons.

South Africa is actively promoting its exports. Japan is a major market for its grapefruits and this fact alone makes interest in the Japanese market high. At Asia's most popular exhibition for food and beverages, Foodex, in 2012, South Africa exhibited its raw grapes, seafood, and other products.⁸² Some South African companies handling fruits and vegetables have set up agents in Japan, and moreover, grapefruits from South Africa imported during the off-season for American products can often be found in Japanese supermarkets.

Japan and South Africa are considering the phytosanitary measures needed to be fulfilled in order to lift the import ban on South African avocados, and have started the procedures to export meat products.⁸³

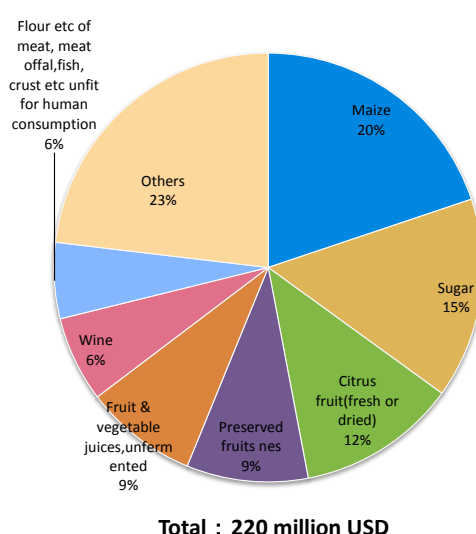


Figure 16 Japan's Import of Agricultural Products from South Africa (2014)

Source: ITC Trade Center

Japanese exports to South Africa

There are very few food-related products exported from Japan into South Africa, and such products account for only about 1% of the total export amount, representing approximately USD 4.6 million in 2014. In addition to marine products, such as tuna, sowing seeds for seed production and food seasoning products are the major project categories.

⁸² Promar Consulting, interviews with industry insiders

⁸³ Ministry of Foreign Affairs, as above; (Current Conditions of Cooperative Relationship between Japan and South Africa)

3.2 FVC Business Opportunities by Product

This chapter provides an overview of the following four product categories by summarizing the current market situation and issues and outlining possibilities for market entry opportunities:

- Cereals (maize, etc.)
- Meat products (chicken, beef, etc.)
- Marine products
- Fruits.

3.2.1 Grain (Maize)

Overview⁸⁴

Maize is the most important staple food in South Africa. It comprises about 30% of the country's caloric intake. Ground maize cooked in hot water, called "pap" is a popular dish, eaten especially in Johannesburg and poor households.

In South Africa, 54% of the produced maize is for food consumption (2014), and the remainder is yellow maize used for livestock feed. Maize is cultivated throughout the country, mainly by commercial farmers. The cultivation area in 2013/14 was approximately 2.7 million ha, and the provinces of Free State, North West, and Mpumalanga were the main production regions. Recently, maize production has been decreasing due to the increase in the cultivation of oilseeds, such as sunflower. The production quantity in 2013/14 was approximately 14.3 million tons, and the yield was 5.3 tons per ha, which is higher than other African countries. Maize is produced by subsistence farmers in the provinces of Eastern Cape, Limpopo, Mpumalanga, and the northern part of KwaZulu-Natal. Their production totaled 680,000 tons on approximately 410,000 ha which accounted for 5% of the overall production in the country. Bio-technology is used in the production of maize for livestock feed, and almost 90% is GMO varieties.⁸⁵

More than 90% of maize production is in the arid regions, and relies on rainfall; irrigated land accounts for only 5% of the cultivated land for maize and 13% for yellow maize. In



Maize flower products



White corn flour porridge "Pap" is a traditional staple

⁸⁴ DAFF, 2014, 'Trends in the Agricultural Sector', DAFF, 2014, 'Maize Market Value Chain Profile'

<http://www.nda.agric.za/doaDev/sideMenu/Marketing/Annual%20Publications/Commodity%20Profiles/field%20crops/Maize%20Market%20value%20Chain%20Profile%202014.pdf>

⁸⁵ GM maize costs double the standard maize, but it is still profitable notwithstanding. Promar Consulting interviews with sector organizations; USDA, 2015, Agricultural Biotechnology Annual

recent years, South Africa has suffered from frequent droughts. In 2015/16 season, the maize harvest is expected to be the lowest since 2007 due to the severe drought which hit the country in 2015. In addition, according to the interviews with local experts, some regions have suffered drought for 3-4 years continuously, and the damage is expected to result in a long-term reduced water supply. Large-scale producers have already built water-saving facilities, but new entrepreneurs do not have such facilities and are likely to suffer more due to the drought.

South Africa is a net exporter of maize, and exports between 500,000 – 2.5 million tons every year, mainly to the SADC region. However, due to the 2015 drought and decreased maize production, the South African Cereal Association predicted that 3-5 million tons of yellow maize and maize will have to be imported to South Africa in 2016 to satisfy demand.⁸⁶ Only 10% of white maize is traded internationally trade volume of maize, so experts expect that South Africa will rely on supply from countries with surplus white maize production such as Zambia, Malawi, Mexico, and the United States.⁸⁷

Wheat is the second most popular cereal consumed in South Africa, especially in the tourist regions such as Cape Town where pasta and other wheat-based products are often consumed by foreign visitors. Rice consumption is less than that of maize and wheat. It is popular in Durban, where there is a large Indian community, in addition to other areas such as Cape Town and Johannesburg. South Africa does not produce its own rice, and it is imported from Thailand and India. Japanese rice is not very common. In terms of wheat production, the share of imported wheat is expected to increase in the future due to factors such as climate change and high transportation costs from the domestic production areas to the cities.⁸⁸

The Maize Value Chain⁸⁹

The maize supply chain was fully privatized by deregulation in the 1990s, and the current mature market is structured around commercial farmers and the private sector. Maize harvested by commercial farmers is carried to silos owned by the farms or to neighboring silos managed by large companies; after the maize is graded at the silos, it is distributed to the domestic and international markets. Approximately 80-90% of the maize is destined for the domestic market and about half of the volume is for human consumption, 40% is used for livestock feed, and the remaining 10% is for seeds and other end-use industries. In the domestic market, maize is either processed by flour milling companies, feed manufacturers or sold by distributors. Approximately 10-20% of the production is exported to mostly Southern African countries and Eastern African countries. More than 75% of the domestically produced maize is transported on roads because the decrepit railroad infrastructure. The main port for maize import and export is the Port of Durban.

The maize milling industry is comprised of approximately 20 large-scale companies that mill 2/3 of the maize produced in South Africa. The top 4 companies are Pioneer Foods, Pride Milling, Ruto Mills and Premier Foods and together they control 40% of the market. These companies handle not only milled products such as wheat flour and maize flour but they also manufacture and sell products, such as bread and patisseries. In addition to the top players, there are a number of small-scale and informal milling companies which produce similar products and sell them at competitive prices which makes the competition in the segment especially challenging. Competition is further triggered by the changes in

⁸⁶ BusinessDay, 4 December 2015, 'Maize shortage puts food security at risk for millions', Bloomberg Business 27 January 2016 'Worst South Africa Drought in Memory Cuts 2016 Maize Crop 25%'

⁸⁷ BusinessDay, 4 December 2015, 'Maize shortage puts food security at risk for millions'

⁸⁸ Promar Consulting expert interview

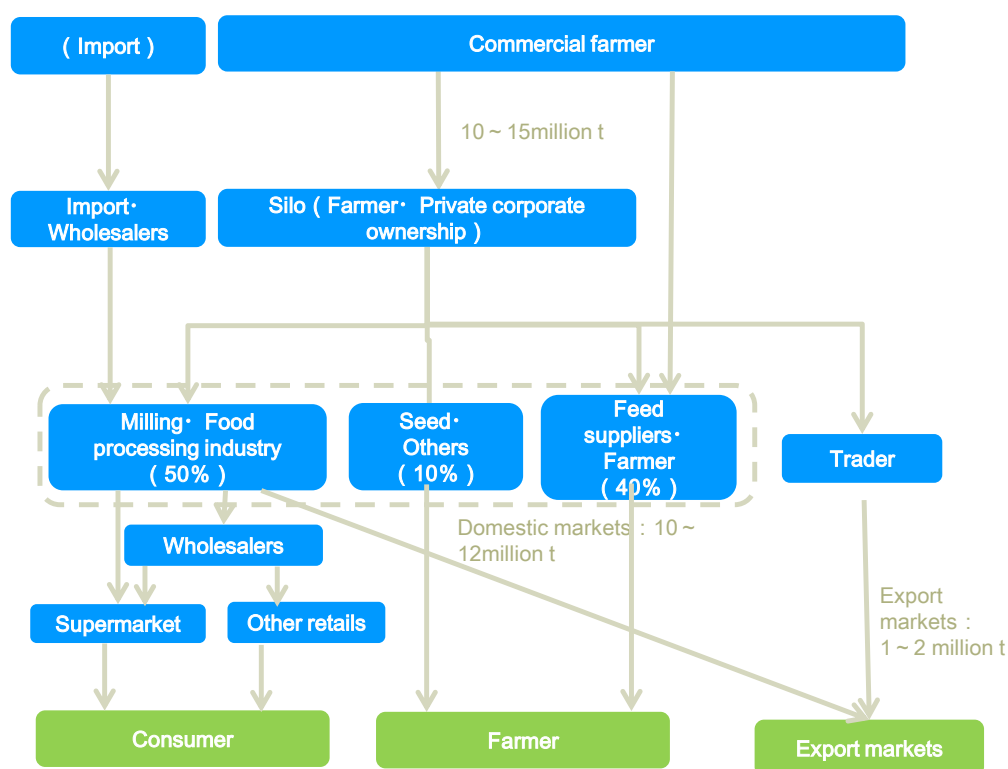
⁸⁹ Promar Consulting, interviews with retail industry insiders, DAFF, 2014, 'A Profile of the South African Broiler Market Value Chain', DAFF, 2014, 'A Profile of South African Beef Market Value Chain', Karan Beef's website

consumers' tastes. As maize is no longer necessarily the staple daily meal and other cereal products are becoming more popular, the maize milling volume in general is on a downward trend.⁹⁰

Vertical integration in South Africa's cereal sector has advanced in the past years. Currently, three agribusiness companies, Afgri, Senwes, and NWK, which are former cooperatives that have developed into large companies, together own more than 70% of South Africa's silo storage capacity. In addition to their maize and wheat flour milling for industrial use, manufacturing of animal feed and manufacturing of oil products for food, these companies also provide various services such as financial support, as well as agricultural inputs and high-tech machines. The grain majors Cargill and Louis Dreyfus Group have also entered the market.

The domestic price for maize is based on the domestic storage availability and the price fluctuates depending on other factors such as changes in international prices, foreign exchange rates and the domestic production volume. In South Africa, the price volatility is significant due to the impact of the unstable climate. The manufacturing cost for maize flour includes maize price, the labor costs required for maize milling, as well as the packaging materials costs, electricity, and transportation.⁹¹ Approximately 75% of the manufacturing cost is the raw material cost of the maize. The most significant impact on the milling sector is caused by price volatility and increases in the cost of raw materials and especially small-scale mill operators, which have relatively low cost efficiency, are susceptible to these factors.

Figure 17 Maize Supply Chain



Source: Promar Consulting

⁹⁰ University of Pretoria, 2010, 'Determining the Factors that Limit Agro-processing Development in the Maize Milling Industry in Rural Areas in South Africa'

⁹¹ To improve domestic health conditions, South Africa made it obligatory to improve the nutrition of maize powder and flour from 2013; costs are required for these measures, as well. Food Fortification Initiative http://www.ffinetwork.org/regional_activity/africa.php

Challenges in the Maize Value Chain

The major issue in South Africa's maize sector is its susceptibility to drought due to the reliance on rainfall. Irrigation facilities are limited, and there is an ongoing concern that the maize production will be impacted even more by climate change in the future. Furthermore, the global cereal prices are also becoming more unstable due to droughts, and as a result, cereal price fluctuations are becoming the core hurdle for the milling industry.

It is expected that maize imports will increase in the future due to droughts causing low domestic production. Increased imports will force the South African industry to face additional challenges such as insufficient port capacity and transportation capacity. To date, South Africa has not experienced high quantity imports of maize, wheat and other cereals and has significant problems in the transportation infrastructure, including insufficient deep-water berths to allow large ships to anchor in the ports, insufficient cereal unloaders and insufficient number of trucks to carry for transporting the imported cereals inland.

Opportunities in the Maize Value Chain

The existing opportunities for entering South Africa's maize sector include development in the fields of water resources and drought-resistant seeds, as well as investment into improving the transportation infrastructure such as ports.

- **Research cooperation in the field of climate change; water-saving technology and water-saving products, as well as agricultural technology and know-how to alleviate environmental burdens**

It is expected that the development of drought-resistant seeds and water-saving technology, as well as agricultural technology that alleviates environmental burdens and research cooperation in the field of climate change is going to be more and more important in the future. As discussed in more detail in Section 3.3, the giant agrochemical and seed corporation, Monsanto, has already entered the seed sector. Since 2008, Monsanto has been making progress in its development of drought-resistant seeds in five African countries, including South Africa and Mozambique, as a result of partnerships with the African Agricultural Technology Foundation, Bill and Melinda Gates Foundation, and USAID.⁹² As part of JICA's collaboration program with the private sector for disseminating Japanese technology, Japanese companies, such as Hitachi Ltd. have also started promoting their energy-saving seawater desalination systems in Durban. Such water resource-related projects are considered to be very important for the agricultural sector.

- **Maintenance of the distribution infrastructure, including port facilities such as grain terminals, roads, and other transportation networks**

It is necessary to reinforce the port facilities and transportation infrastructure in order to expand the cereal trade. The Japanese government in collaboration with JICA is investigating opportunities for conducting infrastructure projects in South Africa, with the purpose of promoting trade and building the regional infrastructure in the region.

⁹² <http://www.monsanto.com/improvingagriculture/pages/water-efficient-maize-for-africa.aspx>

3.2.2 Meat (Chicken, Beef)⁹³

Meat consumption increased over the past 20-30 years, along with the economic growth and increase of average incomes. Currently, approximately 1/3 of overall South African expenditure on food is spent on meat products, and the annual meat consumption amount per person was 65kg in 2014. About 60% of this volume was chicken. Approximately half of total meat sales were for home consumption (i.e. at retail), followed by 25% for wholesale and 15% for eating out. Volumes for eating out show the fastest growth.

Chicken is the cheapest source of protein and it is often consumed frozen, bone-in or as pre-cut products. In contrast, the price of beef is high, and as a result the consumption volume is not as high. However, beef steaks are popular among the middle class, especially young consumers (18-25 year olds), representing a large section of the population. Pork is not very popular for religious reasons and since the cost of lamb/mutton is high, its consumption has also not expanded greatly.

The consumption of protein has become an important issue in the entire African continent, not just in South Africa. In general, as disposable income increases, consumption shifts from chicken giblets to chicken and then beef, and this similar trend can be seen in South Africa. Eggs are regarded as a comparatively low-cost source of animal protein, and their consumption is expected to grow in the future as well.

The red meat sector, focused on beef, is one of the fast-growing sectors in South Africa. Yet, while extensive grazing of cattle and sheep is done on pastures throughout the country, approximately 75% of the country's entire beef production is supplied by feedlots. The largest cattle producing areas are the provinces of East Cape, KwaZulu-Natal, Free State, and North West. The number of cattle in South Africa is just under 1.4 million head, 80% of which are beef cattle and the remaining 20% are dairy cattle. The number of slaughtered cattle in 2013/14 was about 2.6 million head. South Africa imports 4,000-10,000 tons of beef every year from Australia and other countries, while it exports 4,000 to 8,000 tons to Mozambique, Nigeria, Ghana, and Egypt; the export quantity seems to be on the rise.

The poultry sector is divided into three main categories:



Chicken is used in various dishes



Cattle grazing



"Biltong" is a popular food.

⁹³ DAFF, 2013, 2014, 'Trends in the Agricultural Sector'

supply of chicks, broilers, and eggs. The broiler industry is the major supplier of meat protein in the market and has been growing every year. Broiler meat represents approximately 94% of the entire poultry sector, while the remainder includes hens, small-scale household broiler meat production, and other specialty broiler meat production such as turkeys.

Broiler meat production is conducted in the provinces of North West, Northern Cape and Western Cape, Mpumalanga, and KwaZulu-Natal. In 2013, the number of slaughtered broilers was approximately 940 million, and the production volume in 2014 was valued at ZAR 30 billion. Imported poultry has continued to increase in line with the increasing domestic demand. In 2013, approximately 20% of market demand was satisfied with 390,000 tons of imported poultry products. In recent years, imports from European countries, including the Netherlands and the United Kingdom, have increased, representing about 40% of all imports. Brazil is the second largest poultry supplier after the European countries and in 2013, Brazil supplied almost 50% of imported frozen broiler chickens to South Africa.

The Meat Value Chain⁹⁴

Beef: There are approximately 500 meat processing plants throughout South Africa. Feedlot cattle is slaughtered and processed at these meat processing plants, and then retailers and wholesalers purchase the processed meat. Retailers procure dressed carcasses from their contracted meat processing plants, cut it up into portions (primary cuts) in the shops, and sell it as fresh meat over the meat counter. Depending on the retail shop, the meat is portioned according to consumers' needs. The remaining unsold meat after the first 1-2 days is vacuum packed at the shops and sold in the next two days. In addition, depending on the wholesaler, there is differentiation of the meat products sold. For example, there are wholesalers who sell high-priced fillet cuts in regions with higher income population, while other wholesalers specialize in lower quality meat cuts distributed in poorer regions.

Subsistence farmers and new farmers represent 20-30% of the meat industry. These farmers bring their cattle to local meat processing plants and auctions. The meat that is not included in the commercial value chain is sold mainly to the low income



Inside a meat shop



Carcasses to be processed in a supermarket



Various meat products lined up in the supermarket



Lever product

⁹⁴ Promar Consulting, interviews with retail industry insiders, DAFF, 2014, 'A Profile of the South African Broiler Market Value Chain', DAFF, 2014, 'A Profile of South African Beef Market Value Chain', Karan Beef's website

sector and targets traditional distribution channels.

Vertical integration is making progress in the meat sector, and the number of large-scale feedlot operators that own their own meat processing plants and packaging facilities is on the rise. These feedlot operators also deliver packaged products to retail shops. There are approximately 40 major feedlot operators which belong to the Feedlot Operator Association.

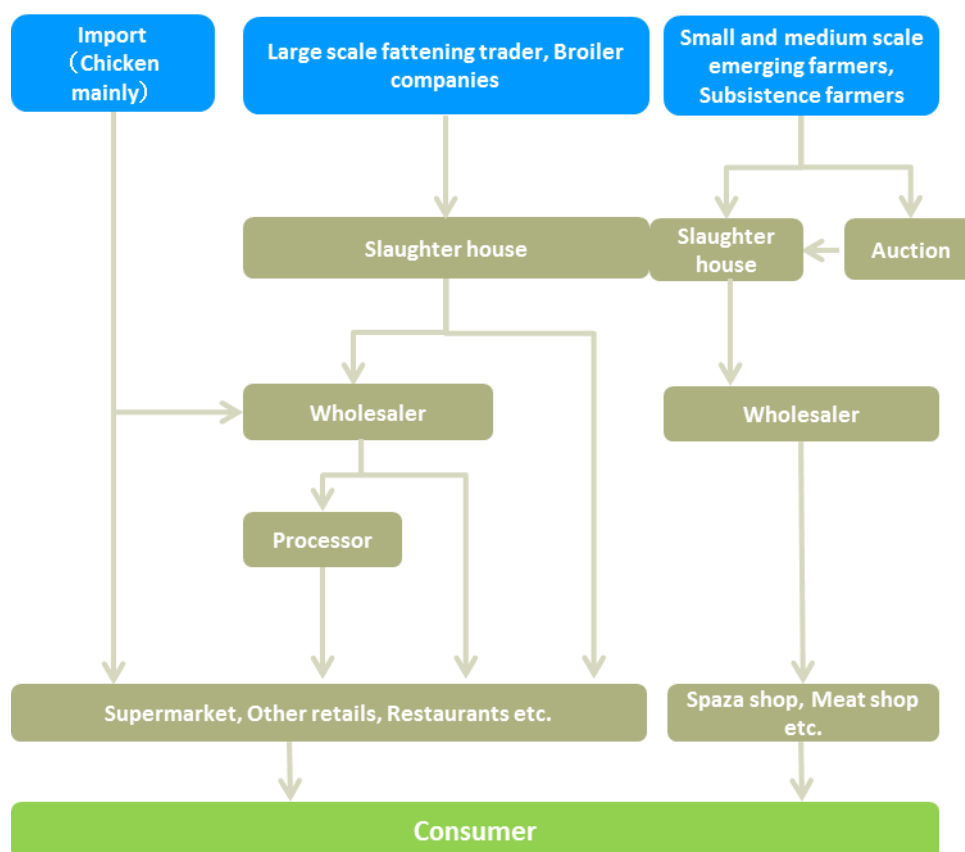
Karan Beef and Beefmaster are the major meat processing companies. Karan Beef is a vertically integrated company which has its own farm and meat processing plant. Recently, Karan Beef built a large-scale meat processing plant with a special quality management system in which the carcasses are fully mechanically prepared and steam vacuum packaged. Processing of offal is common in the South African market and Karan Beef manufactures value-added products, such as stomach and liver. Beef Master, on the other hand, originally started as a livestock farming company, and since then has diversified its operation. In 2003, it established its own meat processing plant, and in 2005, it opened its own brand named meat specialty store.

Chicken: The broiler sector's value chain is divided mainly into commercial production and small-scale, subsistence production. Broilers raised by commercial farmers are processed and packaged at meat processing plants and later are distributed to the domestic retail market and the export market. There are approximately 265 formal meat processing plants in South Africa, and these processing plants sell their meat mainly to the five major retail chains, as well as to small and medium-sized retailers. In contrast, the broilers raised by small-scale farmers are sold to the broiler meat market, and they are often distributed to small-scale local retail shops and itinerant vendors. Currently, it is difficult for small-scale farmers to satisfy the quantity requested by the large retailers. The major retailers procure their products only from meat processing plants and companies that can satisfy their sanitation management and packaging requirements.

The broiler sector has become an oligopoly, dominated by large companies. The two major companies Rainbow and Astral Foods represent 46% of the overall domestic production. The third largest company is Country Bird, followed by 4 companies that are medium-scale producers. In total there are 7 companies that control 75% of the broiler market. Rainbow is under the umbrella of the major food processing company, RCL Foods, together with Vector Logistics, a logistics company. These companies are involved in livestock production, as well as meat processing and distribution.

Following the recent increase in the volume of chicken imported to South Africa, the major retailer Shoprite established its own logistics department and started importing directly meat from Brazil and Argentina.

Figure 18 Meat (beef, chicken) Supply Chain



Source: Promar Consulting

Challenges in the Meat Value Chain

The main issues in the meat industry are the increase in producers' price due to increase in the farm input costs such as livestock feed and the recent lack of certified meat processing plants servicing the retail market. Furthermore, many retail companies require bar codes to be placed on products in order to ensure traceability. The facilities that can handle this procedure are insufficient, and in addition, there are not enough proper cold storage facilities for the dressed meat. In order to increase the storage time at retail stores, the meat cuts are placed in cold storage or vacuum packaged at an early stage of distribution. Storage at a suitable temperature and appropriate packaging are important but require considerable investment so as a result many companies which cannot afford such investment have not been able to enter the market. Other issues include the price competition between domestic and imported products, the high-cost of chickens, weak sanitation management resulting from insufficient training of domestic veterinarians with regard to broiler production and the lack of product marketing and technical guidance.

Market access is difficult for small-scale producers due to their limited production volume, which prevents them from supplying the volume-demanding retail sector. In South Africa, chicken is supplied mainly by large-scale producers and there are limited opportunities for small-scale producers to access the market. Other issues include access to finance and the deficiency of strong farmers' organizations.

Opportunities in the Meat Value Chain

There are market entry opportunities from the production stage to the distribution stage beyond mere financial investment. For example, companies may participate in projects focused on improving the

vacuum packaging equipment for the processing and distribution stages of the value chain, as well as improving the cold chain and establishing product traceability system.

- **Providing low-cost, high-yield livestock feed**

Commercial farmers and small-scale farmers are facing difficulties in their meat production because of recent price increase of inputs such as feed. It is expected that one of the future opportunities in the market is providing low-cost feed for the large broiler sector.

- **Providing packaging and cold-storage facilities**

Thanks to existing technologies, such as shrink-wrap, the storage period of meat has increased considerably worldwide. In South Africa, there are several areas which require improvement. For example, while the existing cold-storage facilities are well-developed, investment is necessary for improving the overall supply chain.

- **Investment in export-oriented high-quality meat companies**

South Africa exports its meat to countries in Southern Africa and Western Africa. Since demand for meat in African countries is expected to grow in the future, investment in meat processing facilities and cold chain, targeting export-oriented meat companies is considered as an option for market entry.

3.2.3 Fisheries⁹⁵

Overview

In South Africa, fish is a relatively high-priced product, so it has become part of the diet mainly of the mid and high-income consumers, whereas it is hardly affordable by lower income people living in the inland of the country. The majority of the fish consumed domestically are low-priced imported products. South African high-quality marine products are mainly exported to foreign markets, with some volume distributed to the larger cities of Johannesburg and Cape Town.

Imported tuna and salmon are sold at retail shops, such as Pick n Pay. In terms of processed seafood, canned sardines are one of the popular products consumed throughout the country. The retailer Shoprite has its own branded canned products using imported fish, but the majority of the canned products are imported.

The economic scale of the fishery sector is relatively small, making up about 0.1% of the GDP. In 2013, a total of 470,000 tons of seafood products were landed in South Africa.⁹⁶ The main fishing ground is centered around the Western Cape Province, located in the south-eastern sea area. The key types of fishing methods used are: pelagic trawling, small-scale trawl fisheries in close waters, ground fish longline fishing, pelagic longline fishing, midwater trawling, and purse seine fishing. The key species caught are sardines, anchovies and Cape hake. In the past, Japanese and Taiwanese boats fished for southern Bluefin tuna in the area, but at present, foreign boats must be granted fishing rights in advance so the tuna catch volume is limited.⁹⁷

The recent climate changes and overfishing have caused depletion of resources and as a strategy to recover marine resources, the focus of the sector has shifted to the aquaculture industry. The total production value of the aquaculture sector was just USD 600,000 in 2013, but recently the sector's production is increasing. Within the aquaculture industry, freshwater cultivation has been established in the provinces of Limpopo, and



Fish dishes are mainly consumed in Cape Town and Johannesburg



Canned fish is a popular product



Salmon fillets sold in supermarkets are mostly imported

⁹⁵ ITC International Trade Centre, Promar Consulting, interviews with government officials, retail industry insiders, and fish product processors, DAFF, 2014, 'A Profile of the South African Aquaculture Market Value Chain' <http://www.nda.agric.za/doaDev/sideMenu/Marketing/Annual%20Publications/Commodity%20Profiles/Livestock/Aquaculture%20market%20value%20chain%20%20profile%202014.pdf>

⁹⁶ FAOFishStat

⁹⁷ CCSBT (Commission for the Conservation of Southern Bluefin Tuna <https://www.ccsbt.org/ja/node/5>) for southern Bluefin tuna, which allocates and manages the resources between governments, the allocated quantities regarding tuna were decided. South Africa is a cooperating non-member country of the CCSBT, but the allocated quantities meeting the requirements for membership are expected to increase from 40 tons to 150 tons (2016-17).

Mpumalanga, as well as the northern part of the KwaZulu-Natal province. Seawater cultivation is popular in the Western Cape province, where mussels, oysters, abalone, seaweed, and shrimp are being produced. Cultured mussel production has shown the greatest growth, as well as abalone, which has even started to be exported to South-East Asia. Catfish are produced in lakes and cultivation beds, even though it is not traditionally consumed, it has recently been discussed that catfish is a good source of protein. The South African government has launched the Aquaculture Development Enhancement Programme (“ADEP”), which focuses on investment and development of the aquaculture industry. In the current times of depleting marine resources, cultured fish is seen as a good alternative source of raw material for the production of canned fish, which is comparatively affordable source of protein for consumers.

The scale of the fish processing industry is small and mainly fish powder, fish oil, frozen, dried, and canned seafood products are produced. Sardines (pilchard) are usually canned, while anchovies, round herring, and other pelagic fish are processed into fish powder, which is mainly used as feed ingredient for the domestic poultry industry.

As the competition in the domestic market is tough, there are many companies targeting the export market where the profit is greater. Exports of South African marine products include mainly whole frozen fish, as well as fresh, chilled and frozen fillets, which are exported to Spain, Italy, and China. The export quantity in 2013 was around 100,000 tons valued USD 430 million. Tuna is mostly exported to Japan. In contrast, in 2013 South Africa imported about 100,000 tons of seafood products valued at USD 230 million. Namibia supplied almost 40% of imports, followed by India, Norway, and China.

The Fish Value Chain

The fishery supply chain includes fishermen/aquaculture producers, wholesalers, processors, retailers and importers. In general, the majority of good quality fish products are exported. The remainder is filleted and processed into half-cooked products, which are distributed to retail or to the restaurant industry in Johannesburg and Cape Town.



Lobsters ready for distribution



Sea Harvest processed seafood products sold at retail



Tuna freezing facility. Tuna is exported to Japan as well.



Cape hake being packed for export

There are a few players in the labor-intensive fishery sector. The large seafood companies have advanced in implementing vertical integration and focused efforts are being made for developing the fishing industry, the processing industry and aquaculture. Sea Harvest and Irving & Johnson (I&J) are among the largest fishing companies. Sea Harvest mainly catches and processes Cape hake, and in addition to producing its own branded line of processed products for retail, it also imports marine products.

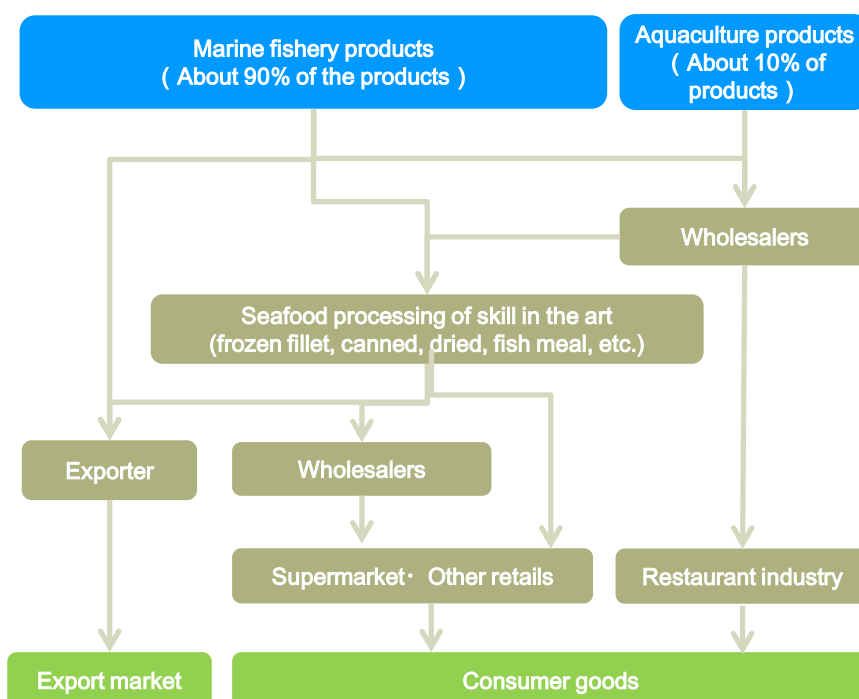
There are more than 355 processors registered in the aquaculture sector. Oceania is the market leader with 16% of the market. Approximately 50% of the processing sector is occupied by 6 companies: Oceania, Premier, Pioneer, Saldanha, Gansbaai, and FoodCorp⁹⁸. The remainder of the market is comprised of numerous small-scale fishing companies. The market leader Oceania has implemented advanced vertical integration and it has acquired the inshore long-term fishing rights for South Africa and Namibia. Oceania catches sardines and processes them into canned products. Moreover, it owns cold storage facilities for commercial use, and also offers logistics services.

Several companies in the canning industry have made progress in their integration: Glenryck, Saldanha, and Lucky Star. In particular, Lucky Star has a strong position in the canned fish products market, and its products include mackerel and jack mackerel in tomato sauce, and tuna flakes preserved in oil or water. Lucky Star is a subsidiary of Oceania Group and it owns fishing boats, canneries, as well as cold and frozen storage facilities. It catches horse mackerel, lobster, hake, sardines and pilchard, as well as produces animal feed and fish powder for bio oil fuel and for pet food.

Many aquaculture products, especially abalone, are traded in the international market and in that sense current domestic and international demand have an impact on their prices. In the past few years, the domestic producers' price has been gradually increasing, and this has impacted the continuous growth in the demand for aquaculture products in South Africa. For example, the production volume of fish powder varies depending, on one hand, on the marine resources and the total allowable catch (TAC) and on the other, on the price of imported soybean flour, which is a competing type of protein.

⁹⁸ FoodCorp proposed selling the fisheries sector, including the catch allotment and processing plants, to Oceania. However, the selling of the Glenryck branded product business was not permitted to prevent accelerated oligopolization, as Oceania's Lucky Star branded products hold 73% of market share for canned pilchards goods, and Glenryck under FoodCorp holds 8%. Lexology, 2015, 'Oceania/Foodcorp merger appeal successful before CAC' <http://www.lexology.com/library/detail.aspx?g=e5b7cb32-fafc-4754-b711-f2d2cc434ba3>

Figure 19 Seafood Supply Chain



Source: Promar Consulting

Challenges in the Fish Value Chain

One of the important issues in the fishery sector is the insufficient supply of fish. The government and large retailers in the private sector are focusing on making the distribution of local seafood products cheaper. There are several issues that need to be tackled with regard to the cold chain, which is an important element in the seafood distribution: product development utilizing quick freezing technology, infrastructure maintenance and -60°C freezing equipment necessary for freezing tuna for the export sashimi market.⁹⁹

As for the aquaculture industry, the following issues were identified: the lack of specialized knowledge and know-how; insufficient technical support and diffusion of services; the high production cost for feed, machinery, and technology; the management of aquaculture related diseases; the insufficient stock of premium fish species; the lack of marketing in the industry; climate changes and insufficient availability of good-quality feed. There is still room for improvement in the cultivation technology used for eel, tilapia, cob, tuna, and seaweed production.

Opportunities in the Fish Value Chain

There are Japanese companies that have already entered segments of the South African fishery sector which deal with seafood exports to Japan. In addition to this, there are also opportunities for market entry at the domestic distribution and consumer level as well.

In addition to the possibility of exporting and selling their own products by establishing ties with fishery processing companies and retail companies, there are also opportunities for investment in the aquaculture industry, where the South African government is focusing its energy as well. As part of the market entry process, companies must consider the participation of the black population as well, by creating

⁹⁹ Promar Consulting, interviews with fisheries sector operators and financial institutions

employment opportunities and developing the local communities. After considering the abovementioned factors, it is essential for the Japanese companies to collaborate with a local company that has established a suitable business management framework and positioned its human resources appropriately (reference to the case study in the following column).

- **Investment in seafood processing companies; import/export of processed foods**

Consumers are familiar with canned sardine products and they have become part of the food culture of mid- and high-income groups. Based on this background, it is possible to consider tie-ups with local processing companies to export and sell Japanese companies' own processed seafood products.

- **Establishment of cold chain with freezing and cold storage facilities**

Processors and distributors handling products for export require high quality freezing facilities to maintain product quality. The overall cold chain sector provides opportunities for improvement which require investment.

- **Providing fishery cultivation machinery and materials, high-quality breeds and feed for the aquaculture sector**

The expanding aquaculture sector requires support and investment in the fields of cultivation machinery and materials, including technical support, as well as high-quality breeds and feed.

Fishing Rights¹⁰⁰

In South Africa, fishing rights for commercial fishing were introduced by a 1998 treaty regarding marine resources. It was amended thereafter, and long-term fishing rights have been acknowledged since 2005. The main objective for establishing fishing rights was to force a change in the industry's structure, which was largely owned by the white community in a hope to improve the black population's access to resources by granting them boat ownership and establishing processing and fishing operations. A transfer of the fishing rights was allowed only if the transfer was from a white person to a black person.

According to the South Africa's Marine Resources Act, foreign boats were not recognized as holding fishing rights. The related income did not go beyond the country's borders, and in South Africa, the income was used for promoting development of the processing sector and for creation of job opportunities. Foreign companies, however, were able to enter the market through a joint venture (JV). In addition, South Africa did not own tuna fishing boats that satisfied the specified requirements for necessary space, frozen processing, or temperature management, and so, on an exceptional basis, ownership by a foreign company was acknowledged. In the fishery processing sector, there were requirements that had to be complied with, such as a percentage of women and black employees, and foreigners as well, were granted rights for the processing.

Currently, there is coastal fishing for crayfish and hake. People who are granted fishing rights do not necessarily own processing facilities and fishing boats and in the majority of the cases, white people would more often own these facilities and boats. Therefore, the South African government purchased fishing boats and processing facilities, and started implementing policies for transferring rights. Recently, due to the decreasing volume of marine resources, one of the measures that the government has taken is to reduce the number of permits for fishing rights and this has raised various debates in the industry.

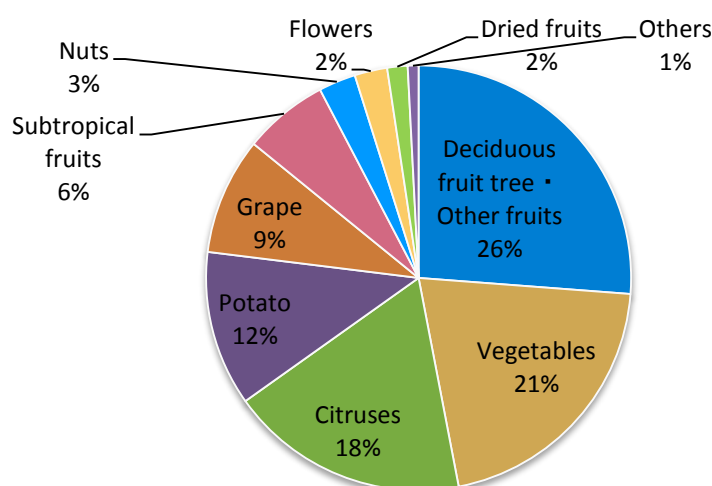
¹⁰⁰ Promar Consulting, 2007, as above, interviews with government officials

3.2.4 Vegetables and Fruits

Overview

Horticultural products are a major sector, representing 1/4 of the agricultural production in South Africa. Among them, deciduous fruit trees and other fruits have a comparatively high share of 26%, followed by vegetables (excluding potatoes), and citrus fruit. Exported goods are led by these fruits and, in particular, citrus fruits, such as grapefruits, apples, pears, quinces, and grapes are the key exported products. In the fruit processing industry, in addition to wine, peaches and pineapple are processed into canned products. The domestic fresh food market is relatively small compared to the entire production sector. The expenditure on fruits and vegetables represented 14% of the entire expenditure in 2013/14 and is on an upward trend. Tomatoes are one of the most popular types of vegetables. They are consumed both fresh and processed and a popular method is as an ingredient in stews eaten together with the staple food “pap”.

Figure 20 Production Value of Horticultural Crops (2013/14)



Source: DAFF, 2015, 'Abstract of Agricultural Statistics 2015'
<http://www.daff.gov.za/daffweb3/Portals/0/Statistical%20Information/Abstract%202015.pdf>

Among deciduous fruit trees, the production of grapes is particularly high at about 1.9 million tons (1.5 million tons is used for wine, while 400,000 tons is table grapes). Apple production is the second largest category at approximately 800,000 tons, followed by pears at approximately 420,000 tons, and peaches and nectarines at 150,000 tons. Other than grapes used for wine, 50% of the deciduous fruit tree products are exported mainly to Europe, and 20% of the remainder is distributed in the domestic fresh food market, while the last 30% is processed into juice or canned goods. Imports represent a niche market and only a low quantity is imported if the domestic supply is insufficient. The Western Cape province is traditionally the largest production region for deciduous fruit trees, but recently the provinces of the Northern Cape and Eastern Cape, as well as Limpopo have increased their production volume.

Wine is produced along the Orange River mainly in the provinces of the Western Cape and the Northern Cape. It is produced from 1.5 million tons of grapes harvested from the approximately 100,000 ha of vineyards. Approximately 60% of the wine produced is exported to Europe.

The production of citrus fruits is about 2.6 million tons in total. Oranges represent about 70% of the total, or about 1.7 million tons, followed by 410,000 tons of grapefruits, and 250,000 tons of lemons. Citrus fruits are mainly for export, and in 2013/14, about 1.5 million tons (approximately 60% of the total production volume) were exported to the Netherlands, Russia, and the United Kingdom. Approximately 30% of citrus fruits were processed into juice for the domestic market. Distribution of citrus fruits in the fresh food market was no more than 170,000 tons, and it represents approximately 7% of the entire production.



Grapefruits is an important export product

The production volume of sub-tropical fruits was 760,000 tons, approximately 60% of which was bananas, while avocado and pineapple each comprised just over 10% of the production in 2013/14. A total of 280,000 tons of bananas were distributed to the fresh food market, accounting for 80% of the total. In terms of processed goods, pineapple production totalled 70,000 tons, or nearly 50% of the total. Total exports were 70,000 tons, and the main exported product was avocados, which accounted for more than 80% of the export amount in 2013/14.



Fresh juice products

Vegetable production reached 2.7 million tons (excluding potatoes). Onions were the largest category with 620,000 tons, followed by tomatoes at 520,000 tons, sweet maize, and pumpkin. Approximately 50% of the vegetable production distributed through the major fresh food markets, 43% is directly sold and consumed by households; 6% of the vegetables produced are processed and about 4% are exported. Vegetables are a healthy food choice, and are often promoted by the industry. Potato production was more than 2.2 million tons and 55% of it was distributed to the fresh food market, and just 20% was processed.



Cut vegetable products

The Vegetable and Fruit Value Chain¹⁰¹

As indicated in Section 2.2.4 “Logistics for modern retailing (supermarkets)”, a general outline for the domestic supply chain of fruits and vegetables involves farmers (intermediaries/cooperatives) and retailers. Among the fresh food production, about 50% is distributed via the fresh food wholesale market, and often intermediaries (such as market agents) deliver and sell products to the wholesale markets. Between the intermediaries and wholesalers, products are sometimes procured on a contract base with farmers. Super chain stores supply their fruits and vegetable through direct procurement from



Vegetables waiting for shipment at a wholesale market

¹⁰¹ DAFF, 2014, DAFF, 2014, ‘A Profile of the South African Potato Market Value Chain’
‘A Profile of the South African Apple Market Value Chain’

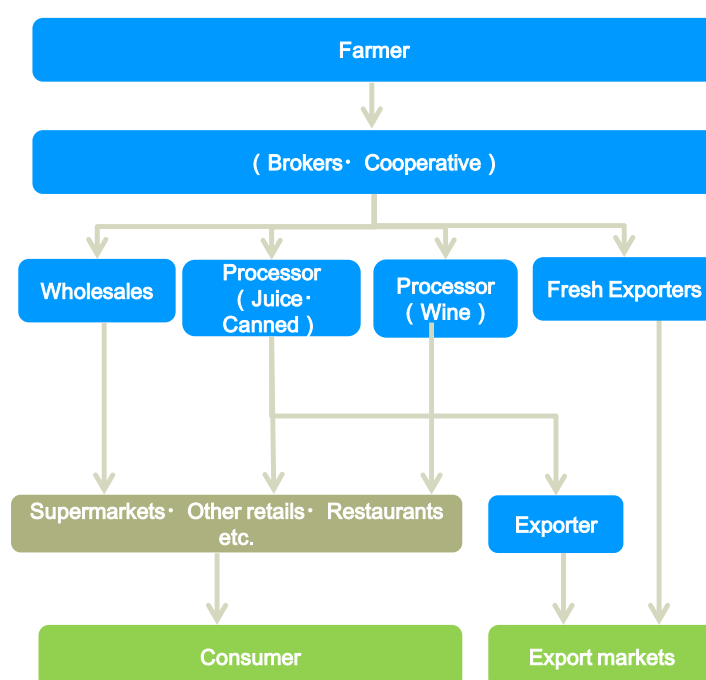
wholesale markets or through intermediaries. It is relatively rare for farmers to supply their products directly to a supermarket, but if they do, they need to properly pack the produce. In addition, farmers' products are distributed to wholesale markets through some cooperatives. Fruit graders, selectors, as well as ripening machinery are used at large-scale farms.

In regard to processed goods, food production companies more often supply and process the fruits and vegetables from their own farms or their contracted farms. Canned fruit products have become an oligopolized sector. The deciduous canned fruit sector is centered in the Western Cape province, especially with peach and apricot production. The leading producer is Langeberg & Ashton Foods which accounts for 70% of the market, followed by Rhodes Food Group and Del Monte SA. In the Eastern Cape province where there is extensive pineapple production, Summerpride Foods owns about 80% of the market, with the remaining 20% owned by Collondale Cannery.

The fruit juice processing sector is divided into bulk concentrated juice production and consumer pack concentrated beverage production. In the bulk segment, there are several large companies, including Ceres Fruit Processors, as well as small-scale operators selling to domestic beverage manufacturers. The consumer package segment includes the popular companies Ceres Fruit Juice, Appletiser, and Berfin.

There are fruit producers which have their own export companies and others that export through export organizations. Since the majority of the exported agricultural goods go through the Port of Cape Town, the infrastructure in this area is comparatively well established, including cold chain from the producing regions to the port. The main fruit exporters include Capespan¹⁰² and the multi-national companies Dole SA and Afrifresh. The Fresh Produce Exporter's Forum is the main organization dealing with exports, and approximately 90% of South African's fresh food exporters are members of the organization. In addition, the Citrus Growers Association and the South African Table Grape Industry are organizations for separate fruits and each of them conducts their own export promotion activities.

Figure 21 Fruit Supply Chain



Source: Promar Consulting

¹⁰² There is an agency in Japan.

Challenges in the Vegetables and Fruits Value Chain

The issues from the production perspective are the increasing production costs due to the increasing costs for packaging materials and fuel, the lack of a trained labor force, the effects of climate change and the insufficiency of rainfall and for farming. From the processing and distribution perspectives, the issues raised were the security of sanitary water for use in packaging facilities and by farmers and the insufficient capacity in storage facilities during harvest time (for example, for apples). In addition, the deterioration of the infrastructure (roads, railways, and port facilities) and the unstable power supply cause delays in transportation, increase in cost, and impact the cold chain, resulting in bacterial infections in the food products. On the other hand, small-scale producers do not have an access to the market due to insufficient infrastructure. The issues from the export perspective are the maintenance of quality, in line with the export market requirements of Europe and other countries, the dependency on exports to some regions and the maturity of the existing export markets. Within the entire supply chain, i.e. from farmer through consumer, manufacturers are raising additional points such as focus on soil, air, water, fertilizer, agrochemicals, labelling and safety. Consumers are demanding products that have safety assurances and that were produced with a low environmental impact; therefore there is an emphasis on traceability.

Opportunities in the Vegetable and Fruits Value Chain

The following needs were identified in the production sector: storage facilities at the distribution stage; processing, cold storage, and packaging machinery at the processing stage; as well as technology related to lower energy consumption. While Japan already imports many products from South Africa, including fresh fruit, canned fruit, fruit juice, and wine, exports can be further expanded not only to Japan but to other regions as well by collaboration with producers' organizations and processors. There is a need to cooperate in infrastructure-related businesses, such as shipping and power supply, not only in the fruit sector but also in other sectors.

- **Providing research cooperation and know-how, water-saving technology and products, and environmentally friendly agricultural technology as measures against climate change**

The needs for research cooperation as measures against climate change (such as the provision of water-saving technology and environmentally friendly agricultural technology) are expected to increase in the future.

- **Providing fruit processing, cold storage, and packaging machinery (including energy-saving technology)**

The fruit processing industry in South Africa is already growing to a certain degree with respect to juice, canned fruits, dried fruits, and wine. Accordingly, there are market entry opportunities in providing food production machinery and cold storage facilities, as well as packaging machinery. South Africa is particularly challenged with the issue of insufficient power, and there is a need for energy-saving technology in the fruit drying process.

- **Increased imports of South African fruits and development and imports of processed fruit products**

South Africa's fruit producers' organization is actively conducting marketing activities, so expanding fruit exports by collaborating with the fruit producers' organizations is one opportunity for market entry, as well as collaborating with local processing companies for the development of products for foreign markets.

3.3 Opportunities in cross-sectoral areas

in order to discuss the market entry opportunities in cross-sectoral areas, below is a summary of the agricultural inputs (such as fertilizer, agrochemicals, seeds, and livestock feed) sector, and technology required at each stage of the value chain.

3.3.1 Agricultural inputs (fertilizers, agricultural chemicals, seeds, feed)¹⁰³

The price of agricultural inputs (including fertilizer, livestock feed, and fuel), comprising more than half of the production costs, continues to rise, and it is connected to the worsening of farmers' profits and the country's trade balance. Recently, the dependence on imported products has been gradually increasing, and as a result it is considered necessary to create a domestic production industry by reactivating the domestic fertilizer industry and the livestock feed industry.

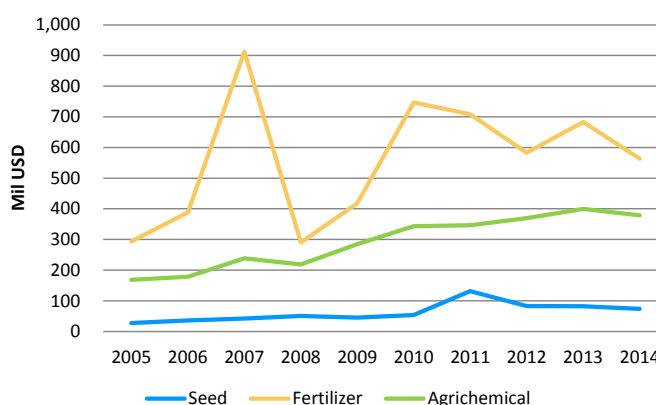


Figure 22 Imports of Fertilizer, Agrichemical and Seed

Source: ITC Trade Map

Currently, there are attempts to improve the efficiency of livestock feed by increasing the ratio of domestically produced ingredients used in feed manufacturing.

Regarding other inputs, with the objective to create a sustainable farming environment and reduce production risk, the sector is transforming from the conventional farm production models to a model of farming that can respond to climate change, such as a climate safe model for farming or models that maintain production levels but reduce farm investment. In addition to many multi-national corporations entering the domestic inputs market, South African companies are also producing generic products. The competition in the sectors of fertilizer, seeds, agrichemicals, and farm machinery is severe, and the key players include multi-national corporations as well as collaborative businesses between South African and foreign companies.

Fertilizer

The fertilizer industry is said to be at a maturing phase, and consumption has been around 2 million tons per year since the 1980s. Maize and sugar cane are the two major crops that use fertilizer, followed by the important crops of fruits, wheat, and vegetables.¹⁰⁴ In the background is the stagnation of fertilizer demand, and there is no foreseeable expansion in the cultivation of cereals and oilseeds, which comprise almost 50% of the overall fertilizer consumption in South Africa. In addition, a large portion of the limited land for cultivation is used for livestock pastures, which also has an impact on the fertilizer sector.

¹⁰³ Grain SA, 2011, Fertilizer Report

http://www.grainsa.co.za/upload/report_files/Kunsmisverslag-Volledig.pdf, APAP2015-2019, Promar Consulting interviews with industry experts

¹⁰⁴ Among the production costs incurred by producers of cereals and oil seeds, the percentage for fertilizer accounts for 30-50%.

More than 65% of fertilizer demand is satisfied by imports. In 1990s, it used to be less than 20%, but imports gradually increased due to the closing of domestic fertilizer plants and the lack of potassium, a raw material used in fertilizer. Since 2010, fertilizer imports (excluding ammonia, rock phosphate, and phosphoric acid) accounted for more than 1 million tons per year. In contrast, fertilizer exports have been around 400,000 tons. The deterioration of the railways, the unstable transportation network and higher transportation costs led to further increases of the fertilizer cost. The increase in fertilizer cost will have an impact on the long-term productivity and production price of cereals, in particular. Improvements in this sector are necessary as it is considered that fertilizer has an impact on domestic food security.

In the fertilizer sector, the large local companies are Omnia, Kyonoch, Sasol, and Profert; in addition, there was large foreign investment from Cargill, Gavilon (Marubeni) and other companies. Previously, the sector was oligopolized by Omnia, Sasol, Yara/Kyonoch (Norway and South African companies, respectively). Yara, however, left the South African market because it let go of Kyonoch in 2009 after acquiring it in 2005. Similarly, Sasol disposed of 5 fertilizer plants due to a decision made by the Competition Commission of South Africa in 2010. The company was sued by the Commission for its bid-rigging deals with Omnia and Yara/Kyonoch. In the end, the oligopoly of the fertilizer industry changed due to this situation and as a result, many small-scale blending plants were established.

The issues in the fertilizer industry that were identified were the deterioration of the infrastructure for producing and transporting fertilizer products; the sudden increase in the power costs and the uncertainty in the production sector due to the insufficient power supply. Moreover, the South African government has recently taken steps to limit the ownership of arable land, and concern has been raised in the industry regarding these steps.

Agrochemicals

About 75% of the crop protection market is comprised of generic agrochemicals from China and other countries. Imports of generic agrochemicals are expected to increase in the future, together with the expiration of patents for the major products. The competition is especially fierce within the categories of herbicides, pesticides, and fungicides. The product requirements are high for these product categories, at the same level as the EU and the USA.

The multi-national corporations in the crop protection industry are Bayer, Syngenta, and Dow Agro Sciences, while the major domestic company is Villa Crop Protection. The logistics and distribution partners selling these companies' products also have an important role in the supply chain. In 2015, the major American agricultural cooperative, Land O'Lakes, acquired the majority of shares in Villa Crop Protection and is one example of foreign investment in the market.

Animal feed¹⁰⁵

The demand for South African animal feed is high, and together with the growth in poultry consumption, a particularly affordable source of protein, the poultry industry is leading in sales for animal feed. Domestic feed production is about 1.2 million tons (2014/15), and the production capacity is growing; however, domestic demand is expected to grow 35% over the next 10 years, and South Africa is predicted to

¹⁰⁵ AFMA 'Chairman's Report 2014/2015'

http://www.afma.co.za/imgs/AFMA%20-%20Chairmans%20Report%202014_2015.pdf, DAFF, 2014, 'A Profile of the South African Broiler Market Value Chain'

continue to be an importer of animal feed and raw materials for feed production.

South Africa's imports of animal feed and related raw materials accounted for ZAR 540 million in 2014 and has been increasing since the late 2000s. On one hand, half of the imports are soybean meal, but due to the increasing number of milling facilities being established based on the local soybean strategy promoted by the Ministry of Trade and Industry, progress towards an alternative to imported feed products is being made. In 2014, animal feed exports totaled ZAR 270 million, and the main destinations were SADC countries and other African countries, including Ghana and Kenya. Exports have also gradually increased over the past 5 years.

Meadow Feeds, Epol, and Afgri are the key players in the feed industry. The Animal Feed Manufacturers Association (AFMA) is the industry's organization. Furthermore, the Southern African Feed Manufacturers' Association (SAFMA) was established in 2013 to promote safe food and feed lines by harmonizing the legal system and regulations in the feed industry within the Southern African region.

Seed¹⁰⁶

Seeds are distributed mostly to commercial farmers. The total value of domestic and exported seeds was ZAR 560 million, which breaks down to ZAR 450 million for agronomic seeds, ZAR 90 million for vegetables, and ZAR 40 million for forage/pasture crops. Maize seed is the largest category within agronomic seeds and accounted for USD 360 million, and in 2012/13 the domestic maize production was 42,000 tons, with more than 4,200 tons being exported.

In the seed sector, there is an increasing concentration of companies. The large seed companies, especially the multi-nationals, are focused on major agronomic crops, which have economies of scale, especially maize and sunflower. The three multi-national companies of Monsanto, Pannar, and Dupont-Pioneer account for more than 85% of the market for all of the four major crops (maize, sunflower, soybean, and wheat) and these companies compete for market share. The number of seed companies is relatively high in the vegetable sector compared to other sectors, and the competition between companies is more severe than that for agricultural crops, such as maize.

Importing seeds from other SADC countries is not that difficult, and to date, GM crops have sought to comply with bio-safety requirements because they are not imported from other African countries. In contrast, for the export of seeds from South Africa to other countries, including SADC, bio-safety procedures are required, and they are reportedly more time-consuming compared to import procedures. There are no serious problems with the domestic road and transportation infrastructure, and commercial farmers have access to inputs. On the other hand, seeds on a regional level are distributed through cooperatives and regional retailers, but the network and distribution system among traders is insufficient. Currently, the seed companies assist farmers and their partners with seed transportation if a large order is received.

South Africa is the largest GM crop producing country in Africa. The GM production area was 2.9 million ha in 2014, mainly for feed grade maize. However other sub-Saharan African countries have few examples of GM crops introduced and commercial production is only conducted in Burkina Faso and Sudan (GM cotton). Other countries are still in the test production stage.¹⁰⁷

¹⁰⁶ TASAI (The African Seed Access Index) , 2015, South African Brief
<http://tasai.org/wp-content/uploads/SOUTH-AFRICA-BRIEF-final.pdf>

¹⁰⁷ IFPRI, 2013, "Genetically Modified Crops in Africa", ISAAA (<http://www.isaaa.org/>), Biosafety Scanner

Seeds are often sold in bulk because the main customers for seeds are commercial farmers. For soybean, sunflower and wheat seeds small-scale packaged products are almost never offered. On one hand, commercial farmers have easy access to the seeds, while on the other hand, the network and distribution system among traders is lacking in rural areas; consequently, there are issues to be solved on the distribution to small-scale farmers.

The South African National Seed Organization (SANSOR) is the industry organization for the seed industry, and it aims to certify the seeds. Companies, including Sakata Seed Corporation, manage the lower committees. SANSOR should be holding the World Seed Conference for the International Seed Federation in 2020 in Cape Town, and it has started conducting activities, including inviting participants.

3.3.2 Production and technological needs at each stage of the value chain

Based on the previous discussion of the inputs industry and issues that were introduced by the sectors of cereal, meat, fishery, as well as fruit and vegetable and cross over sectors, the needs in products and technology at each phase of the value chain from production to consumption are discussed in the next section.

Production

The commercial farmers in South Africa hoping to export their products are conducting high-productivity farming, making advances in automation. Under these circumstances, South African farmers do not differ greatly from farmers in developed countries, as they require improvement in their current methods and technologies in order to become more efficient, as well as introducing technology to reduce waste. The lack of water, in particular, is a major issue, and the recent droughts have left an impact,

with some regions facing a serious problem in the form of insufficient water. In that sense, there is a great need for water-saving technology. Another issue for the entire agricultural sector, and not just for the South African government, is the advancement of sustainable, environmentally-friendly agriculture. These needs are expected to increase even further. The increase in the costs for agricultural inputs, such as fertilizer, is also impacting the situation. In addition, the demand for low-cost, high quality, very efficient fertilizer and animal feed products is also high, especially with regard to the expanding broiler industry.

Furthermore, while a few new fruit and vegetable farmers and small-scale companies have been appearing in some parts of South Africa, these farmers and companies seem to be facing the same issues as other African countries: they have limited access to capital, know-how, and machinery. In such a situation, it is difficult to build a framework to increase production. Another issue is that there is a great deal of arable land left without being sufficiently used in the former homeland zones. Although it was pointed out that there is potential to be able to utilize this land

for supplying vegetables during winter, when some crops may become short in supply, there has been almost no support at this time for small-scale farmers in urban and suburban areas to do so. For these small-scale farmers, the establishment of infrastructure, including a cold chain system, to improve their access to agricultural inputs and automation services, as well as their access to technical guidance, local markets and markets in the major cities.

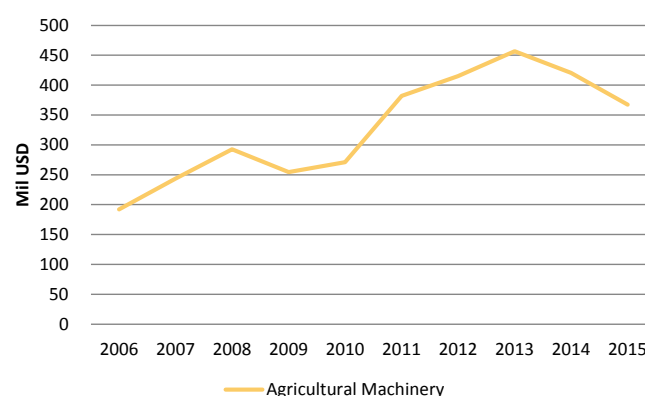
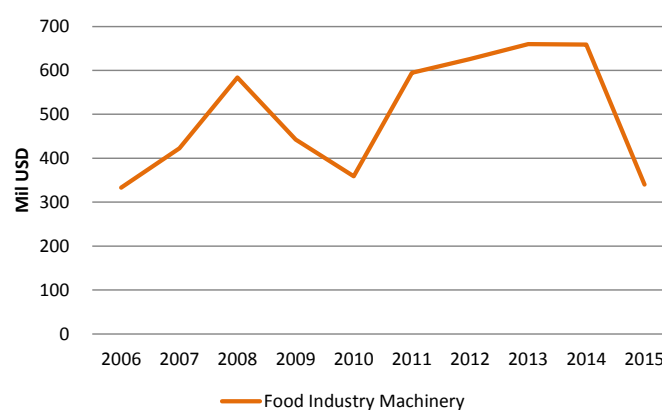


Figure 23 Import of Agricultural Machinery

Source) ITC Trade Map

Figure 24 Food Industry Machinery Import



Source) ITC Trade Map

Processing and Packaging

There is a need for food industry machinery at the processing and distribution phases. Large-scale farms for horticultural crops use fruit graders, selectors, and ripening machinery, but the operation hours tend to be long, so there is an emphasis on good energy efficiency. There are also many types of imported machines. For example, Shoprite uses machines made in the Netherlands to store and ripen bananas, papayas and avocados. The products of Buhler, an American multi-national food industry machinery company, can be seen in maize milling, and the same company provides compact-sized maize milling machines to medium-scale producers. In addition, there are examples of imported processing machinery for the fishery sector.

South Africa has made progress in the packaging technology, following the development in the retail sector. Currently, there is a strong interest in good designs and newly designed packages in order to stimulate the feeling of premium-quality products among consumers. Furthermore, there is an overall need to improve the packaging so the storage period can be extended. The meat processing sector is one example where improved packaging technology such as shrink wrap and vacuum packaging machinery can extend the storage period of a product. Large retailers are importing such packaging technologies and materials.

It is estimated that South Africa had 10 million tons of food waste every year, which is more than 7.7 billion dollars (approximately 2% of South Africa's GDP).

Food waste is especially high at the fresh food processing phase, and the waste resulting from the steps of processing, packaging, and distributing fruit and vegetables accounts for 36% of an overall production and distribution cost. From this perspective, the goal is to improve the efficiency of these steps. The need to improve the recycling system was also pointed out, such as using the resulting waste of composted raw material of fruits and vegetables, and utilizing waste products for animal feed production in the meat and fishery sectors.¹⁰⁸



Shrink-wrapped meat product



Some products are inadequately sealed



Cheese is cut in-store, wrapped in plastic wrap and sold

¹⁰⁸ Environment Review, 2013, 'Valuing South Africa's food waste'

<http://environment.yale.edu/yer/article/valuing-south-africas-food-waste>

In South Africa's cold chain, Etlin is one of the largest companies; it is a large-scale retail chain and wholesaler for meat, fish products, and vegetables. It supplies butchers, and independent retailers, and products for the restaurant industry. The major retailers use Japan-manufactured forklifts. They are reliable, and we heard the opinion that these products have penetrated the market. Products manufactured in Korea, such as Doosan, were also found, and their prices were lower than Japanese products, but their maintenance costs seem to be higher in the long run. (Promar Consulting, interviews with retailers.)

Distribution and retail

South Africa's retail market is relatively mature and saturated. On the other hand, consumers have started to want more varied products and a better food culture, due to the expansion of the middle class and changes in lifestyle. Accordingly, in addition to exporting the final products to already-existing retail markets, the fruit grading sector has room for consideration, in order to develop new products and to differentiate the products in line with the needs of the local market. According to the large retailers, in the fresh fruit and vegetables sector, there is a need for products and services that maintain the technical competitiveness, and for products with attractive designs. Large retailers have held a Japan Expo, where Japanese products are introduced, as well as product exhibitions by Japanese companies. Companies that originally developed their business around products, other than food products, such as games, have also started to offer food products as a means to attract consumers. In addition, in the eating-out sector, large American chain restaurants have entered the market and they target consumers who want the latest novelties; therefore, further development of the restaurant industry is also a possible opportunity.

Recently, retail distribution has a fairly organized cold chain, but in the regional areas, there are still great needs. Moreover, high-tech energy-saving refrigeration and freezing facilities are needed, in view of the insufficient electrical supply.

Together with the maturity of the consumer market, the importance of maintaining product quality and securing traceability has increased, and thus, the needs continue to be great to introduce a production management system as well as a bar code system to achieve these goals. Large retailers also demand products and technology such as refrigeration machinery, software, financial services, retail management know-how, and display methodology among others.

Finally, in South Africa, transportation infrastructure has become an overall issue. The major needs in the agricultural and food industries are improvement and repair of the railway infrastructure to transport agricultural cargo, the strengthening of port processing capability in line with the expansion of trade in agricultural products, and the establishment of transportation infrastructure from port to consumer area.

For market entry

As a business model for market entry, establishing a JV and acquiring a company are possible options, but whatever the situation, it is also important to consider, not only the business content, but also compliance with BEE, and to find an appropriate partner. When entering the market, it will be beneficial to use the Agrifood Technology Station (ATS), which conducts food machinery and technology research and provides services for matching needs between companies. ATS was established at the Cape Peninsula University of Technology and the University of Limpopo; it is conducting activities with the purpose of (1) supporting innovation and (2) supporting activities of small and medium-scale companies by transferring technology, from the food technology aspect. Utilizing ATS is also beneficial for conducting marketing activities for the companies' own products. (refer to next page)

The inclusive business model (refer to Section 2.3.3) is a good example of a business model tackling the need for the establishment of supply chain that involves small-scale farmers and small to medium-size companies from the black population and the low-income community. Among the small to medium-scale farmers and companies, in addition to support from a technical perspective, access to financial services is important. The large financial institutions are implementing financing programs targeting small-scale farmers; for example, the First National Bank (FNB) is implementing a financing program targeting

small-scale farmers in collaboration with DAFF.¹⁰⁹ In addition, in the supply chain, the pursuit of the transformation of the social structure, including the supply of raw materials from black farmers, is ongoing and the Standard Bank is responding by, for example, establishing the Enterprise Development Fund.

Other existing programs include: the Industrial Development Corporation (IDC) financing the industrial development both domestic and overseas, as well as the Land Bank, a government-affiliated financing public company, which offers financing services to commercial farmers and new farmers. These programs can also be considered inclusive business.

Profile: Agrifood Technology Station (ATS) at the Cape Peninsula University of Technology

The Agrifood Technology Station at the Cape Peninsula University of Technology offers various services to develop and improve the processing technology and production systems of mainly small and medium-scale food and food-related companies.

Within the facilities, microbrewery machinery donated by SABMiller, was installed, and in this way, ATS offers a place where companies can be exposed to the recent technology, among other services. In addition, it implements research programs corresponding to the needs of the industries. It conducts micro-incubation projects where it provides equipment to small and medium companies for small production runs or testing out new prototypes. Bread containing spinach is just one example of a product developed by this business, and the large retailer, Pick n Pay, has shown interest in this prototype bread. Currently, this prototype's development has reached the mass production stage and is supplied as a product.

Besides research in the food sector, drones are also a subject of R&D at ATS. Drones are currently used for managing wild animals and managing water resources, and they are likely to be used in the agricultural sector in the future as well.

In 2013, the ATS conducted a RALIS survey (Rapid Appraisal of Local Innovation Systems), which identified efficient methods for regional economic development. As a result, it narrowed down the dominant sectors over the next 5 years, based on the industries' needs and the ATS's expertise. These needs include the following: benchmarking for small-scale business, providing survey services about niche market products; development of large companies' suppliers' capacity through Corporate Social Investment projects; promoting the matching of needs between the companies after creating the experts' list and the customers' list; and lobbying for the



ATS
(Brewing machine donated by SAB Miller)

¹⁰⁹ Agrisa, 'Emerging Farmer Support Services'

establishment of integrated food product-related laws and regulations.

In addition, at ATS, while pursuing environmentally friendly business models, there is also an aim of identifying and implementing green projects. ATS received support from The Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and it is making progress in its activities focusing on efficiency research for waste management at the processing phase, in particular, as well as the activities to create value added products. Management of water resources and the efficient use of energy are important fields, and an example is technology related to collecting and distributing heat. However, it has been difficult to identify experts in the waste processing and green technology sectors within South Africa itself, and ATS is looking for the right people, including people from overseas.

4 SUMMARY

This section provides an overview of sections 2 and 3, and summarizes the market entry opportunities for Japanese companies into the South African FVC.

4.1 Overview of South Africa's FVC

South Africa's GDP was USD 350 billion in 2015, the second largest among sub-Saharan African countries, after Nigeria. The GDP per capita was USD 13,000, which is much higher than the average of sub-Saharan African countries of USD 1,769. However, due to the unstable power supply and frequent strikes, economic growth has recently slowed to a growth rate of about 2%. While there are ongoing challenges regarding road and port infrastructure, and road and port infrastructure is organized relatively well compared to other African countries. As a result, the distribution and manufacturing sectors are well-developed, and the communication and financial service sectors are also making strides. South Africa's market functions as an operational base for the other Southern African countries as well. The devalued South African rand in recent years is expected to have a positive impact to increased exports and growth in the tourism sector, as well as attracting more direct investment capital. On the other hand, issues regarding poverty, income disparity, and high unemployment, concentrated within the black population remain, and South Africa is must undertake counter-measures to resolve these issues.

South Africa is able to be self-sufficient in terms of the major staple crops grown in the country. The agricultural sector is comprised of 20% of large-scale farmers, which represent 80% of the agricultural production output. Commercial farms are mainly managed by white South Africans, with high tech agricultural practices.

The main export product categories are: citrus fruits, wine, maize, apple, pear, quince, and grapes. In contrast, as a result of increasing domestic demand, dependence on imports for wheat and poultry is on the rise. Therefore, in addition to the large-scale farmers and companies, it is necessary for small and medium-scale players to participate in the market, as well as for black traders to be included in the distribution sector. Due to the severe drought in 2015, the industry expects increased volume of maize to be imported in 2016. It was indicated that it is important for the South African agricultural sector to manage its water resources more carefully and to take measures to respond to climate change. In the fishery industry, natural resources are decreasing, so the South African government is making efforts to invigorate the aquaculture sector and improve its port facilities.

South Africa's retail industry is already saturated, but it continues to grow. In the retail sector, modern retail business models account for approximately 70% of the market. Nevertheless, traditional retail business models continue to be popular and the number of such stores increases constantly. The growth of supermarkets has been remarkable, and among them, the 5 largest retailers operate wholesale outlets, hyper-markets, supermarkets, and convenience stores, and the concentration of the market has made progress. The middle- and high-income sectors, including the middle-income black population, are leading the personal consumption trend. Furthermore, the retail growth in the townships (previously, the black population's residential zones) in the suburbs and regional areas has come to be the key. Demand for

eating out sectors is also increasing, and the HORECA (hotels, restaurants, and catering) markets are expanding.

In South Africa, the expenditure on meat, bread and cereals, fruits and vegetables, milk and dairy products, and eggs is relatively high, in addition to oil products, sugar, and other products (jam, chocolate, ice cream, table salt, herbs, tea, and coffee). Among cereals, maize is a major staple food, and poultry represents about 60% of meat consumption. Deciduous fruit trees comprise almost half the production quantity domestically consumed. In the fishery sector, South Africa is making efforts to meet the demand for fish products, which is increasing internationally, and there is movement toward aiming to expand its domestic seafood consumption as a source of protein and a healthy food.

In order to include South Africa's varied agricultural sectors, strong consumer and active retail markets into their business, foreign companies entering the South African market has greatly increased. Although this does not apply much to the retail sector, large foreign companies have started to enter the market in the food processing and agricultural inputs sectors. Meanwhile, in any sector, the presence of domestic companies is strong, and there are more than a few examples of multinational companies collaborated with these domestic companies. Furthermore, South Africa is the origin of the North-South Corridor, which is a major regional trade route. Accordingly, South Africa is at the center of Southern Africa and is utilized as a starting point for trade to other African countries. It occupies an important position for companies interested in meeting the demands in the region.

4.2 Market entry opportunities from Japan

Market entry from Japan is being conducted in a wide range of sectors. While market entry in the agriculture, livestock and fishery sectors is still limited, the presence of Japanese companies in the sectors of agricultural inputs (such as seeds and seedlings, agrochemicals and farm machinery), food industry machinery and fisheries is more visible. There are many Japanese companies located in South Africa as a convenient hub in order to reach out to other African countries. Japanese companies also appear to be interested in the business models offering final products (such as processed food, beverages and seasoning) from Japan for sale in South Africa or other countries. Recently, efforts are also being made by private companies for the promotion of technology projects in the fishery sector.

There are several options for Japanese companies for entering South Africa's FVC. Establishing a JV and acquiring a company are possible options, but it is also important to consider compliance with BEE, as well as finding an appropriate partner. Another option may be the "inclusive business model" which can be taken as an example of including low-income community members such as small-scale farmers and small to medium-size companies of the black population in the supply chain structure. South African companies are active in their business development in other African countries, so Japanese companies can also utilize this network, and learn from these existing business strategies.

The table below summarizes the market entry opportunities by FVC product category and by cross-sectional product sectors.

Table 10 South Africa's FVC and Japanese Companies' Major Market Entry Opportunities

Sector	Production	Manufacturing and Processing	Distribution	Consumption
South Africa's Situation	<ul style="list-style-type: none"> ❑ Frequent droughts, insufficient water ❑ Concern about impact of climate change ❑ High dependency on imports for seeds, fertilizer, agrichemicals, and animal feed ❑ Small-scale farmers' low productivity; insufficient access to capital, know-how, and machinery; and insufficient access to markets 	<ul style="list-style-type: none"> ❑ Rising demand for high energy-efficient fruit graders and selectors in the fruit sector ❑ Rising demand for shrink wrap and vacuum packaging, with longer storage periods ❑ Lack of variation and design in packaging materials ❑ Food waste problems in processing and distribution steps 	<ul style="list-style-type: none"> ❑ Lack of infrastructure for cold chain outside of major cities ❑ Insufficient cargo processing capacity at Port of Durban ❑ Insufficient transportation infrastructure from ports to consumption regions ❑ Small-scale farmers' insufficient access to markets 	<ul style="list-style-type: none"> ❑ Expansion of middle class ❑ Growing demand for varied food and better food culture, and high value-added products ❑ Growing interest in product traceability
Foreseeable market entry opportunities	<ul style="list-style-type: none"> ➤ Products related to water-saving technology and water-saving ➤ Sustainable agricultural models with low environmental burden, and agricultural models able to respond to climate change ➤ Low-priced, high-quality fertilizer and animal feed products ➤ Improved access to inputs and automation services through inclusive business models with respect to small-scale farmers, and technical advice 	<ul style="list-style-type: none"> ➤ Food industry machinery (fruit graders, selectors, age processing machinery, shrink wrap/vacuum packaging machinery) ➤ Efficient technology in processing, packaging, and distribution steps ➤ Packaging with better designs ➤ Waste management and recycle system 	<ul style="list-style-type: none"> ➤ Cold chain (outside major cities) ➤ Improvement of ports' cargo processing capacity, and better transportation infrastructure from ports to consumption regions ➤ Organized infrastructure to improve access to markets by small-scale farmers 	<ul style="list-style-type: none"> ➤ End-use products that allow variation in food lifestyle ➤ Technology related to traceability, and establishment of bar code system ➤ Marketing for display methods, etc.