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Western Cape Agriculture Sector Profile 2022

**Western Cape Agricultural Sector Profile:
2022**

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EXECUTIVE SUMMARY

This report presents an annual update of the Western Cape (WC) Agriculture sector profile based on 2021 statistics. Whilst some of the data is updated annually, other data sources are less frequently updated and the information will remain as was in the previous year's version of the report. Furthermore, the real prices are reported in 2015 constant prices.

The Western Cape (WC) is known for its unique climate, spectacular mountain views and well organised agricultural landscapes for producing mostly horticultural products. This province is home to almost 12% of the national population and its population has been increasing at a faster rate than the national level. In 2021, an additional 105 065 people were added to the province. The three leading districts by population size are the City of Cape Town which accounts for 66%, followed by Cape Winelands at 13% and Garden Route (Eden) at 9%.

The number of households involved in non-commercial agriculture increased by 2% and 7% during the 10-year and 5-year period respectively. In real terms investment in the WC agricultural industry increased by 32%, reaching R5.2 billion in 2021. The population experiencing adult or child hunger either "sometimes", "often" or "always", has slightly declined in 2021 whereas child hunger increased. Adult hunger decreased from 16.98% in 2020 to 13.99% in 2021, but child hunger increased in the same period from 12.09% to 14.44% respectively.

The WC economy has been growing steadily since 2011, with the exception of 2020 but in 2021 there was a slight improvement. Agricultural land transactions increased more than the previous year, from 417 to 636 transactions from 2020 to 2021 respectively. Agricultural export performance in the past ten years has been resilient despite the challenges with the ports, Covid-19 and Loadshedding. The WC's agricultural share in national agricultural exports increased by 2% (from 53% to 55%). WC's share in national FBT exports reached 39%, which slight improvement from the previous year by 1%. Top exports destinations for Food, Beverage and Tobacco (FBT) products were United Kingdom (UK) (9%), Namibia (9%), USA (7%), and Botswana (7%). There are various factors driving innovation and technology adoption in the agricultural sector, and these range from growing population, climate change, rising input costs, unreliable energy supply, and changing consumer preferences among others. Several technologies have major implications for the WC agricultural sector, and this include water management technologies, remote sensing, smart farming, precision farming, and sensor technologies.

1. INTRODUCTION

Agriculture is one of the key sectors of the economy, and accounts for 3% of the national gross domestic product (GDP) in South Africa. Sustaining the growth of this sector depends on the prudent use of natural resources (e.g. land, water), skilled labour force, and access to capital, favourable climate, technology, favourable policy environment and effective institutions among other factors. The National Development Plan has identified agriculture as a sector with potential to contribute to economic growth. In light of the growing population, food insecurity, high levels of unemployment and dynamic international markets, it is important to ensure the viability of the domestic agricultural sector.

Therefore, access to statistical and economic market information is crucial to promote equitable participation in the economy. Moreover, such insights are essential for strategic planning and decision-making. Hence, this report presents an annual update of the Western Cape (WC) agricultural sector looking at trends shaping the sector in the context of the current economic and policy environment using 2021 statistics. A wide range of relevant topics is discussed in the report, starting with an overview of the province, followed by agricultural production trends, land-use change, trade, employment, subsistence farming, investment, infrastructure, domestic markets, agro-tourism and water. The last section is a brief overview of technologies in the agricultural sector.

2. OVERVIEW OF THE WESTERN CAPE

The WC is one of South Africa's nine provinces, situated on the South West coast of the country (Figure 2). The province consist of 25 municipalities grouped into six districts. The WC is markedly different from the rest of South Africa in terms of climate; its regions along the coast have a Mediterranean climate, while a semi-desert climate exists inland. It is also rich in natural biodiversity and the Fynbos biome ecosystem contributes to the production of endemic Protea flowers and rooibos tea. It is a winter rainfall region with well-developed production and processing infrastructure that allows stable production of a unique mix of agricultural produce. The diversity of production reflects the diverse landscape that features high mountain regions, lush valleys, coastal regions and semi-desert areas (Vink & Tregurtha, 2005). The WC is a dominant player in the horticultural sector. The road network infrastructure also plays a significant role in connecting various producers to markets and the transportation of agricultural products to ports facilitating exports and imports.

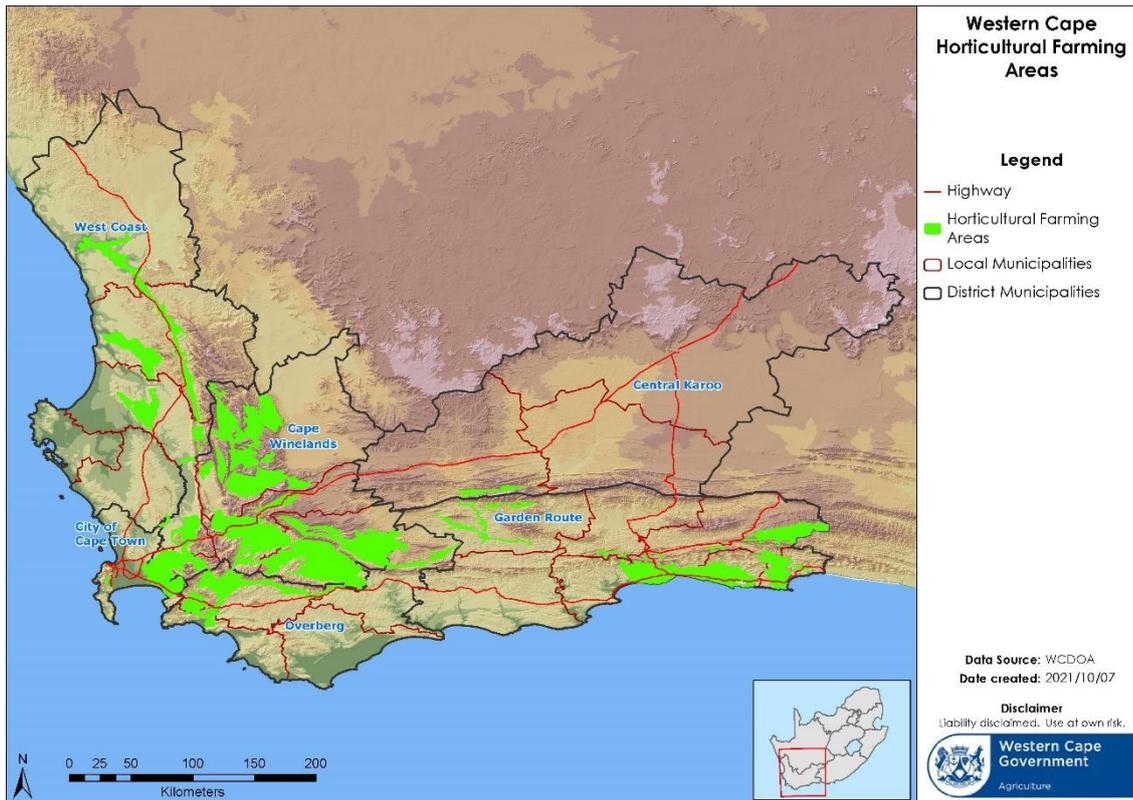


Figure 2.1: Western Cape Province horticultural farming areas in South Africa

Source: (WCDoA, 2020a)

The WC's population increased by an additional 105 065 people between 2020 and 2021 bringing the total population to 7 million, almost 12% of the national population. Figure 2.1 shows the absolute population of the province and the relative share of the national population for each year between 2011 and 2021. For the past decade, the national population's annual average growth was (1.5%) lower than the provincial growth rate of (2%). The majority of the province's population resides in the Cape Town metropole area (66%) as illustrated in the regional breakdown of the WC's population for 2011 and 2021 in Figure 2.2. The City of Cape Town has the fastest-growing population, growing at 2% per annum over the past year and is responsible for 70% of the province's total population growth. Overall, the relative breakdown of the population has not changed significantly over the past decade, with Cape Town showing a growth of 1% and Eden declining by 1%.

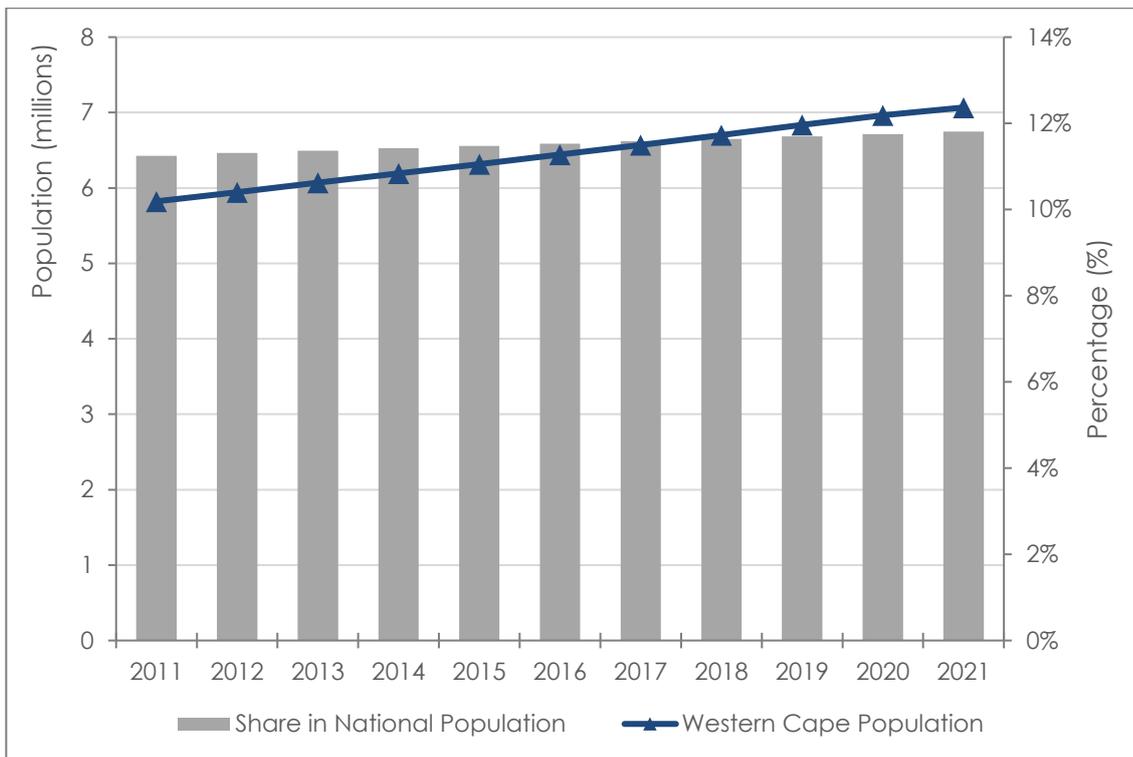


Figure 2.1: WC Absolute and Relative Population, 2011-2021

Source: (Quantec, 2022)

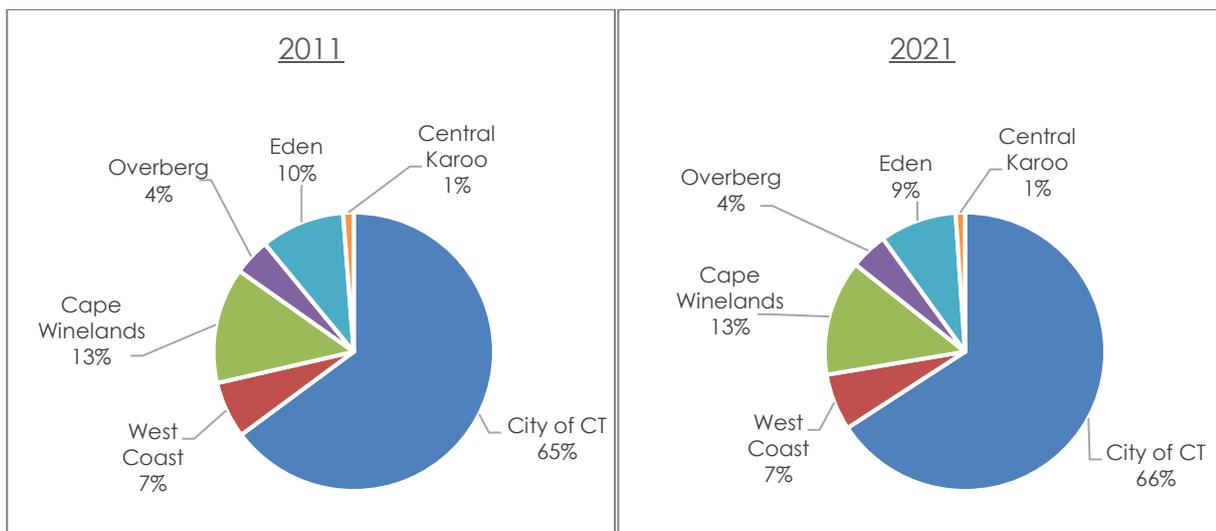


Figure 2.2: WC Population by District, 2011 vs 2021

Source: (Quantec, 2022)

Figure 2.3 breaks down the WC population by age and gender for the 2021 period. The province has slightly more females than males, with the female share of the population standing at 51%. In terms of age groups, a large portion of the population fall between the ages of 25 and 34, these two cohorts together account for almost one-fifth (18%) of the total population.

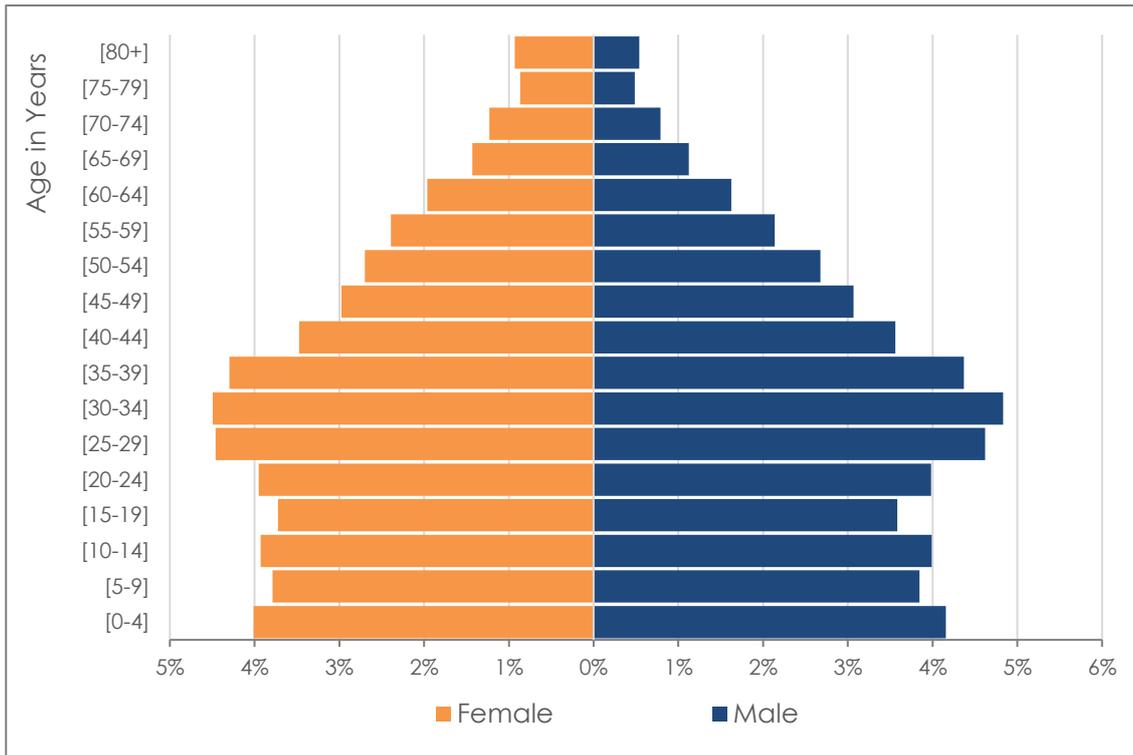


Figure 2.3: WC Population by Age & Gender, 2021

Source: (Quantec, 2022)

The WC's economy has been growing steadily since 2011, with 2020 breaking a run of nine prior years, but there was a slight increase in 2021. Between 2011 and 2021 real annual growth averaged 1%, but between 2020 and 2021 the provincial economy increased by 4.6% to reach a total of R577 billion (in 2015 prices). The WC's economy has over the past decade grown more or less in line with national economic growth, resulting in a relatively slightly higher by 0.2% in the province's share in the national economy.

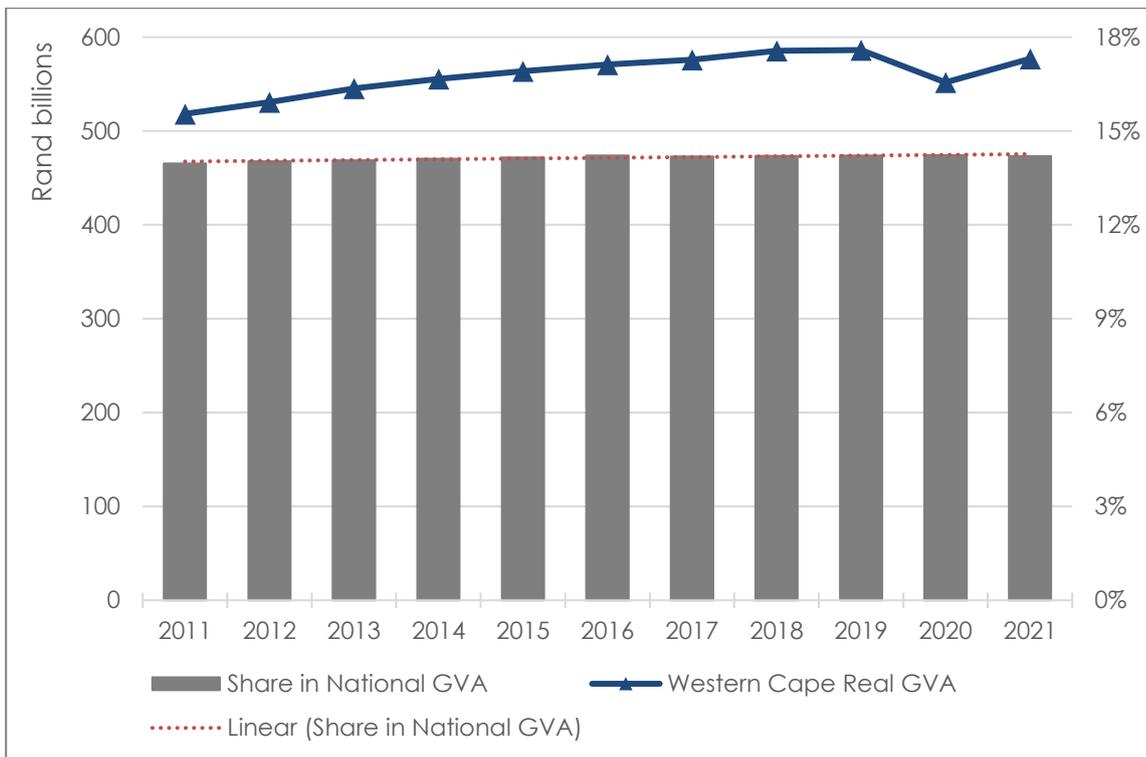


Figure 2.4: Western Cape Real Gross Value Added (2015 prices), 2011-2021

Source: (Quantec, 2022)

Figure 2.5 illustrates the WC sectoral breakdown by share contribution to the provincial economy. The largest sector in terms of contribution to the provincial economy is the business services sector, which includes financial, insurance and real estate services. However, there was a decrease of 0.3% in this share over the past year, from 32.1% to 31.8%. In general, seven sectors increased their share contribution to the economy compared to the previous year; these include social services (10.7% to 11.0%), Agriculture (2.8% to 2.9%) (excluding Forestry and Fisheries), other manufacturing (9.9% to 10.1%), Forestry and Fisheries (1.3% to 1.4%) and Food, beverages and tobacco (4% to 4.1%). The exceptions are Mining and quarrying, Utilities, Construction, Wholesale & retail and general government.

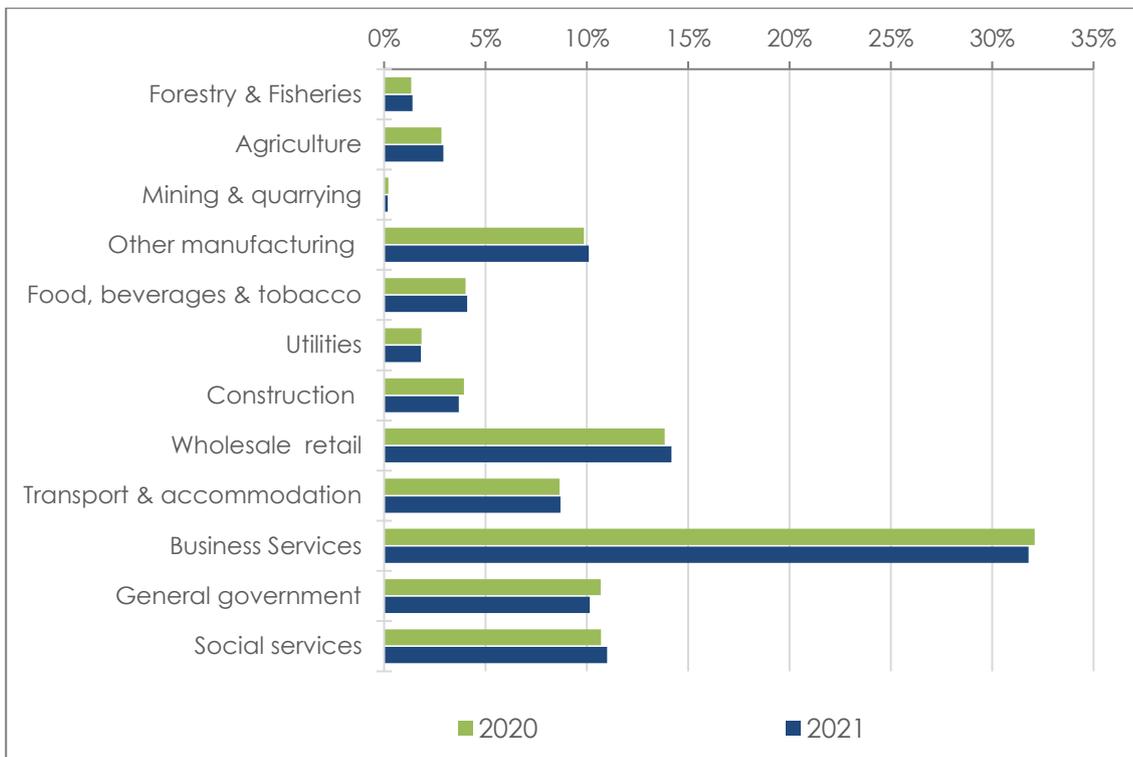


Figure 2.5: Sectoral Contributions to WC GVA, 2020 vs 2021

Source: (Quantec, 2022)

Summary Points

- The Western Cape population grew by an average growth rate of 2% faster than the national average of 1.5%, adding 105 065 thousand people in 2021.
- Provincial GVA increased by 5% in real terms in 2021 indicative of an economy on its path to recovery.
- The Business services sector continues to constitute the largest share of the Western Cape economy.

3. AGRICULTURAL PRODUCTION

The agricultural (incl. Forestry & Fisheries) sector experienced real positive economic growth in 2021 with a GVA in the sector increasing by 7.98% to above R16 billion, and this was also the case for both the food 7.99% and the beverages and tobacco sectors 5.43%, and overall the combined growth 7.36% (Figure 3.1). The agricultural sector showed signs of recovery in 2021 when compared to 2020.

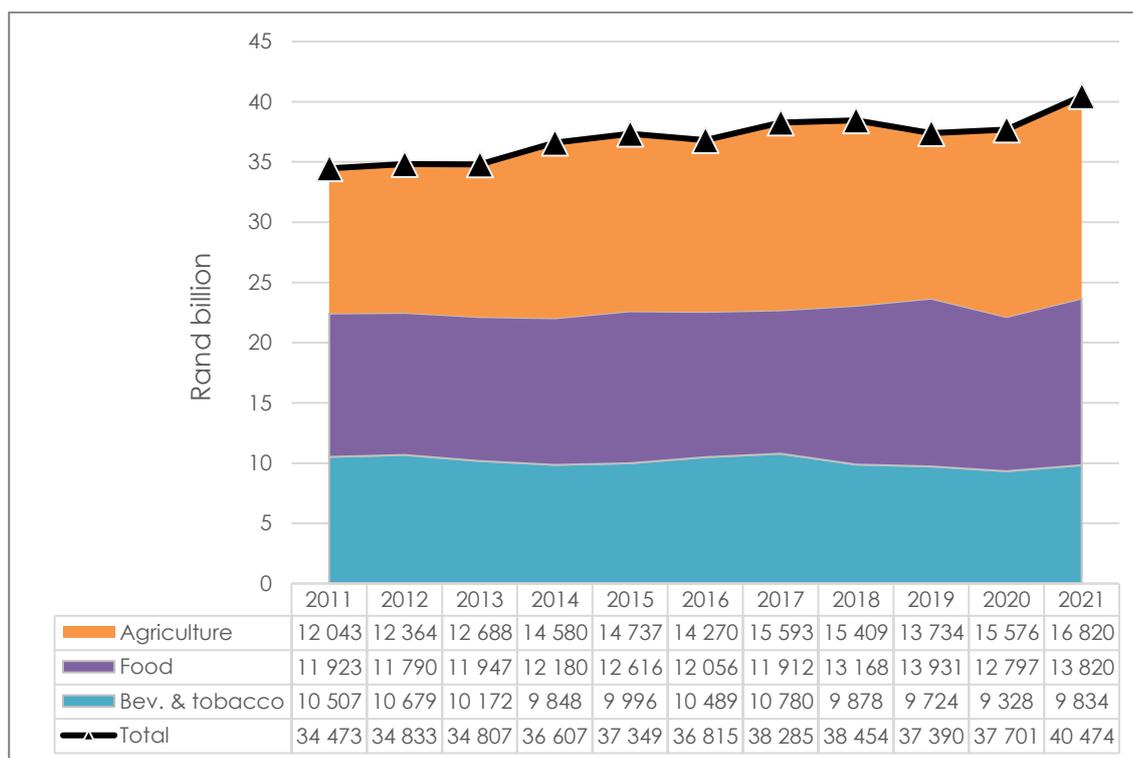


Figure 3.1: Real GVA in Agriculture and Agri processing (2015 prices), 2011-2021

Source: (Quantec, 2022)

The WC's agricultural GVA increased by an annual average growth rate of 3.40% over the past ten years. The province's share of national agricultural GVA represented in Figure 3.2 shows a decline over the past ten years but in 2021, the share decreased by 0.06% compared to the previous year. The WC was disproportionately affected by the later impacts of the drought towards the end of the decade, then the outbreak of Covid-19 in 2020 and ongoing electricity supply disruptions due to Loadshedding. The growth in 2021 for the province was slower than the national level meaning the provincial share in agricultural GVA remained relatively low at 14.73%. Another interesting observation relates to the province's share of national GVA in the food, beverage and tobacco (FBT) sector. As illustrated in Figure 3.2, the province's national share in 2021 remained steady the 20% mark.

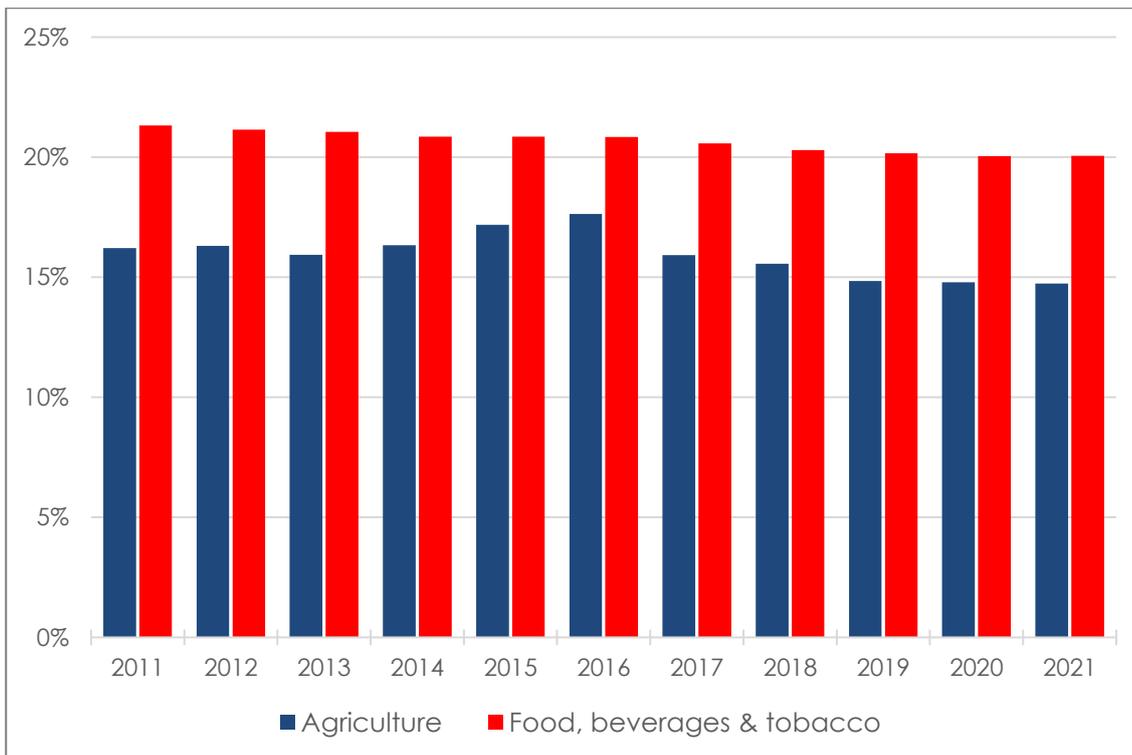


Figure 3.2: WC Share in Real National Agricultural and FBT GVA, 2011-2021

Source: (Quantec, 2022)

The geographic distribution of agricultural and FBT GVA within the WC province in Table 3.3 has not changed significantly over the past year. The City of Cape Town's high share has been attributed to the significant amount of agriculture taking place in peri-urban areas around the city (Partridge, et al., 2019). Over the past year, this share even increased slightly from 18.07% to 18.08%. There was a decline in food processing GVA from the Cape Winelands (12.72% in 2020, 12.60% in 2021) but the West Coast experienced a slight positive increase (15.81% in 2020 to 16.12% in 2021). There was also quite a significant shift in the concentration of beverage and tobacco products from Cape Winelands, where the share in activity continued to decline from 16.94% in 2019 to 15.60% in 2020 and 15.20% in 2021; to the City of Cape Town, where the share rose from 62.97% in 2019 to 63.57% in 2020, has now slightly increased to 64.05% in 2021. The WC is more dependent on horticultural production than the rest of South Africa. This is evident from Figure 3.4 which breaks down the gross farm income of the WC and the rest of South Africa into income received from horticultural activities, animal-based activities, field crop production and "other activities". For the rest of South Africa outside of the WC, animal-based agriculture accounts for more than half (56%) of farm income. A further quarter (25%) of income is related to field crop production and horticultural activities make up most of the remainder (18%). In contrast, whilst still, significant animal-based activities make up only 37% of gross farm income in the WC.

Instead, the main income source is horticultural activities which make up almost half of all income (47%). Field crops make a slightly less significant component of income in the WC, compared to what is observed at the national level.

Table 3.3: Geography of WC Agricultural GVA, 2021

	Agriculture	Food	Beverages & Tobacco
City of Cape Town	18,1%	59,5%	64,1%
City of Cape Town	18,1%	22,0%	30,9%
West Coast	24,8%	16,1%	13,1%
Matzikama	5,9%	1,2%	1,3%
Cederberg	3,7%	2,4%	0,6%
Bergrivier	6,3%	3,3%	0,7%
Saldanha Bay	1,6%	3,6%	6,1%
Swartland	7,2%	5,7%	4,2%
Cape Winelands	33,4%	12,6%	15,2%
Witzenberg	7,5%	2,4%	1,4%
Drakenstein	8,1%	3,5%	5,8%
Stellenbosch	4,8%	2,6%	4,3%
Breede Valley	7,8%	2,3%	1,9%
Langeberg	5,2%	1,8%	1,8%
Overberg	10,4%	3,9%	2,7%
Theewaterskloof	6,8%	1,7%	1,1%
Overstrand	1,1%	1,3%	0,9%
Cape Agulhas	1,0%	0,5%	0,3%
Swellendam	1,5%	0,4%	0,3%
Eden	10,6%	7,7%	4,9%
Kannaland	1,2%	0,3%	0,2%
Hessequa	2,0%	0,6%	0,3%
Mossel Bay	1,0%	1,3%	0,7%
George	3,3%	3,4%	2,4%
Oudtshoorn	1,9%	1,3%	0,7%
Bitou	0,6%	0,3%	0,1%
Knysna	0,6%	0,6%	0,4%
Central Karoo	2,8%	0,2%	0,1%
Laingsburg	0,6%	0,0%	0,0%
Prince Albert	0,6%	0,0%	0,0%
Beaufort West	1,5%	0,1%	0,1%

Source: (Quantec, 2022)

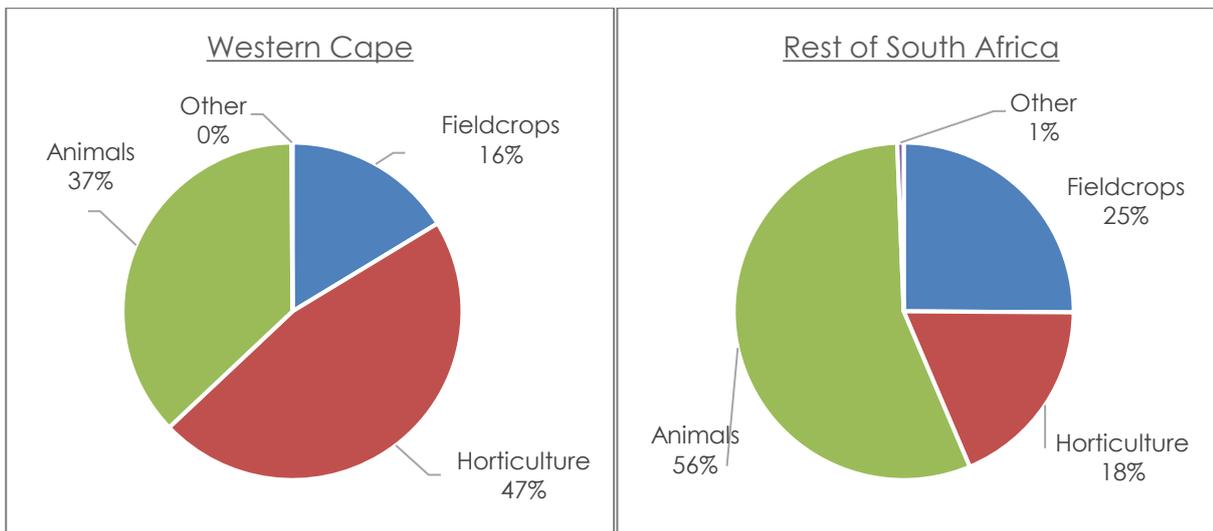


Figure 3.4: Breakdown of Gross Farm Income, Western Cape vs Rest of South Africa, 2017
 Source: (Stats SA, 2020)

There are significant differences in the breakdown of farm income sources across the WC's different districts as shown in Figure 3.5. Animal-based agriculture makes up more than 60% of farm income in the Central Karoo and the City of Cape Town, and more than 50% in Eden. These are also the three districts with the lowest total farm income together accounting for only 22% of total farm income in the Western Cape. The Cape Winelands alone account for 41% of total provincial farm income, over R23 billion, and also has the highest share of income attributable to horticultural activities where it accounts for more than 60%. The other two districts, Overberg and the West Coast, also have horticulture as the main farm activity accounting for 46% and 43% respectively, and together account for a further 37% of provincial gross farm income.

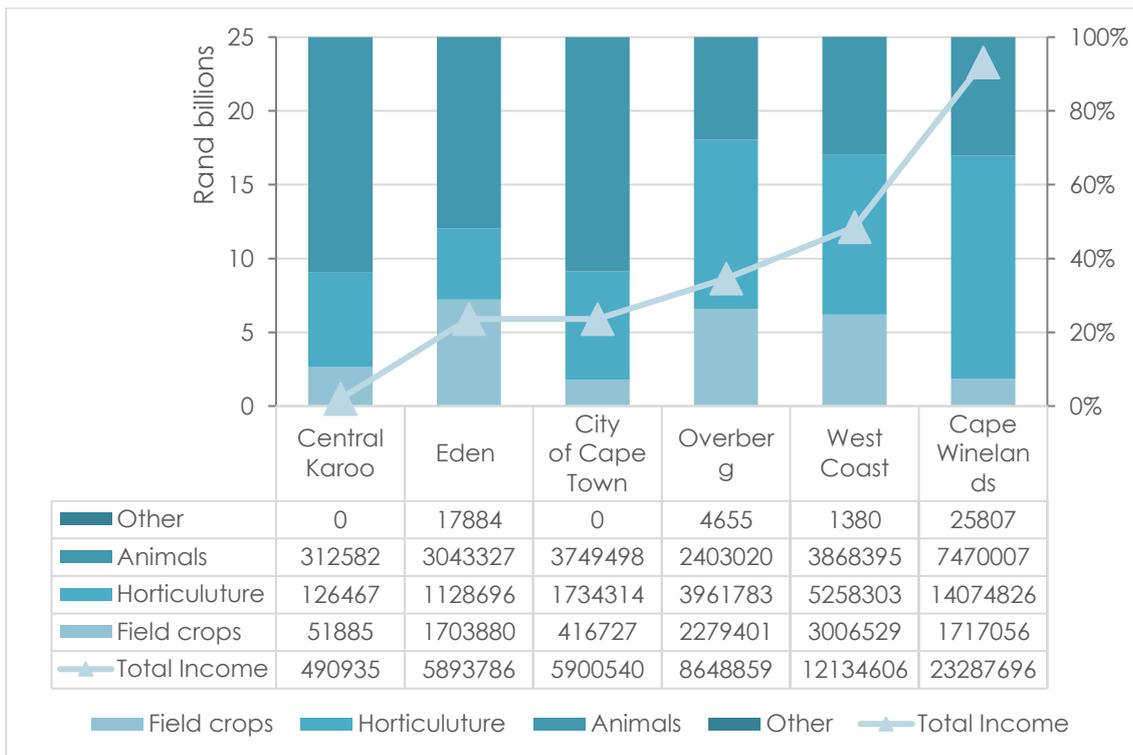


Figure 3.5: Breakdown of Gross Farm Income by District, 2017

Source: (Stats SA, 2020)

Summary Points

- WC's agricultural GVA increased by an annual average growth rate of 3.40% over the past ten years.
- The WC's Agricultural Sector relative share of national GVA remained low at 14.73% in 2021.
- The province's share of national GVA in the food, beverage and tobacco (FBT) in 2021 remained steady at a 20% mark.
- There was a decline in food processing GVA from the Cape Winelands (12.72% in 2020, 12.60% in 2021) but the West Coast experienced a slight positive increase (15.81% in 2020 to 16.12% in 2021).

4. AGRICULTURAL LAND

There were approximately 2 million hectares of land recorded as being under crop production in the WC in 2017, with about 338 588 hectares (17%) of that land used for wheat. The remaining areas were farmed with the following top 10 crops in the province as shown graphically in Figure 4.1 wine grapes (91 221 ha), canola (90 523 ha), barley (86 670 ha), rooibos tea (58 996 ha), apples (21 512 ha), table grapes (13 095 ha), pears (10 711 ha), oranges (7 704 ha) and lupines (72 99 ha) respectively.

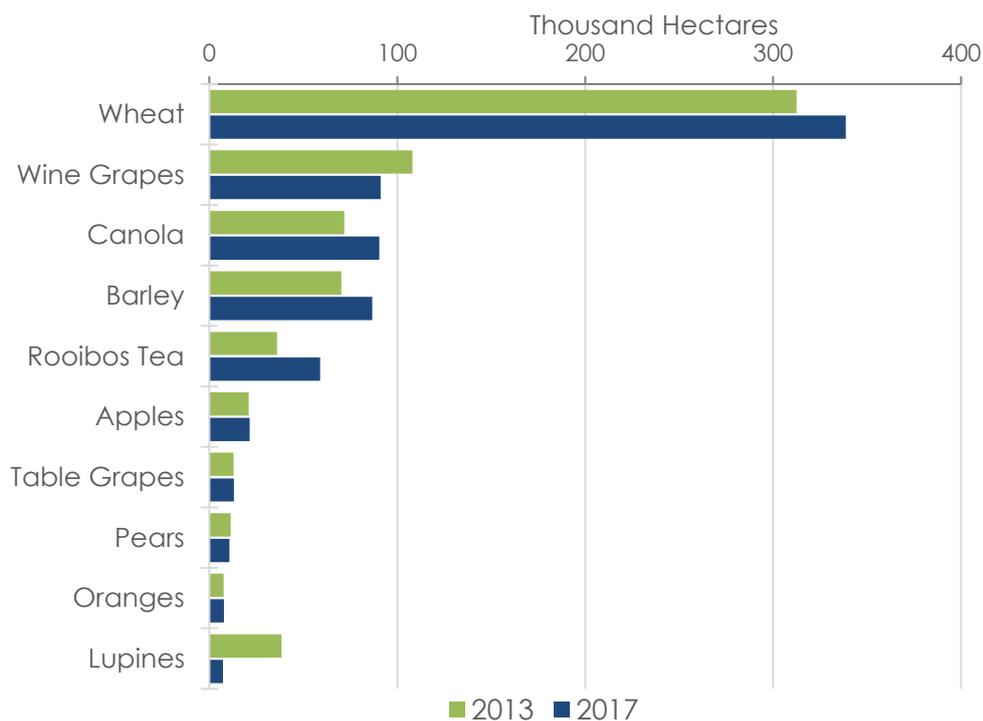


Figure 4.1: Top 10 WC Crops by Area Planted, 2013 vs 2017

Source: (WCDoA, 2018)

Table 4.2 shows the breakdown of areas under broad crop groups in the WC. Most of the province's grain crops, oilseeds and lupines are grown on the West Coast (35%) and the Overberg (30%). The West Coast also has the largest recorded area used to grow vegetables (36%), and almost the entire area used for producing tobacco, teas and hops (99%), mainly due to this being the major rooibos growing region. More than half of the province's orchards are located in the Cape Winelands district (57%). Table 4.2 below illustrates broad crop categories grown in each WC municipality for the 2017-2018 growing season.

Table 4.2: Geography of WC Crops Planted, 2017

Areas	Grains, Oil Seeds, Lupines			Vegetables	Orchards	Tobacco, Teas & Hops	Total
Cape Town	16 012	1 588	6 072	0	23 672		
City of Cape Town	16 012	1 588	6 072	0	23 672		
Cape Winelands	27 252	4 297	104 075	13	135 637		
Breede Valley	105	472	24 124	0	24 702		
Drakenstein	16 300	435	18 354	8	35 098		
Langeberg	2 754	386	23 470	0	26 610		
Stellenbosch	150	155	15 001	0	15 306		
Witzenberg	7 943	2 849	23 125	5	33 921		
Central Karoo	15	510	1 058	0	1 583		
Beaufort West	15	33	187	0	235		
Laingsburg	0	329	328	0	657		
Prince Albert	0	148	543	0	691		
Garden Route	78 284	2 594	7 540	633	89 052		
Bitou	1	4	110	5	121		
George	1 140	1 122	2 952	467	5 681		
Hessequa	70 810	100	783	4	71 697		
Kannaland	2	353	2 759	20	3 134		
Knysna	255	67	38	0	361		
Mossel Bay	6 056	282	473	6	6 817		
Oudtshoorn	21	666	424	130	1 242		
Overberg	199 002	401	20 814	97	220 315		
Cape Agulhas	66 878	4	377	58	67 317		
Overstrand	2 022	59	1 296	37	3 414		
Swellendam	60 283	92	3 001	1	63 377		
Theewaterskloof	69 819	246	16 141	1	86 207		
West Coast	211 241	7 207	41 674	58 925	319 047		
Bergrivier	72 188	2 349	5 793	15 790	96 120		
Cederberg	6 152	3 424	11 345	33 972	54 892		
Matzikama	47	962	10 812	8 336	20 157		
Saldanha Bay	23 660	57	42	806	24 564		
Swartland	109 194	416	13 682	21	123 313		
Total Western Cape	531 792	16 087	180 175	59 668	787 722		

* Note: Table excludes extensive grazing areas

Source: (WCDoA, 2018)

Figure 4.3 below shows the amount of agricultural land (ha) transferred through the private markets between 2011 and 2021, and the average price of the transactions (Rand per hectare, converted into real 2015 prices). In 2021, there was an increase for land sold and not only was the number of transactions more than the previous year, increasing from 417 to 636 transactions from 2020 to 2021 respectively. The average amount of hectares sold in these transactions was an improvement on the previous year. The total amount of land sold

was 280 022 ha compared to 198 432 ha the previous year. Although the number of transactions and amount of land sold was more than the previous year, the average value of the sales showed a decrease from 2020. The total number of transactions is unfortunately still lower than the three years before 2020. Eden district had the most transactions with 288 properties sold which is an improvement of 107% from the previous year. Eden has traditionally been the District Municipality with the most transactions but is to claw its way back to its previous average of over 300 transactions per year. The West Coast District Municipality had the highest amount of hectares sold with close to 99 000 hectares switching hands. This is an increase of 178% from the previous year. Central Karoo had the second highest amount of land being sold at almost 81 000. Due to the average size of farms in Central Karoo, this was achieved by only 29 transactions, while the West Coast had 122 transactions in 2021 to achieve the highest number of hectares sold. The Cape Winelands agricultural land transactions increased from 113 to 142 which showing 25,6% improvement, however, in term of amount of hectares sold there as decrease of 35%. Table 4.4 indicates a decline of 45% in land transactions. Eden remained the most popular area for the sale of land with the Cape Winelands in second place.

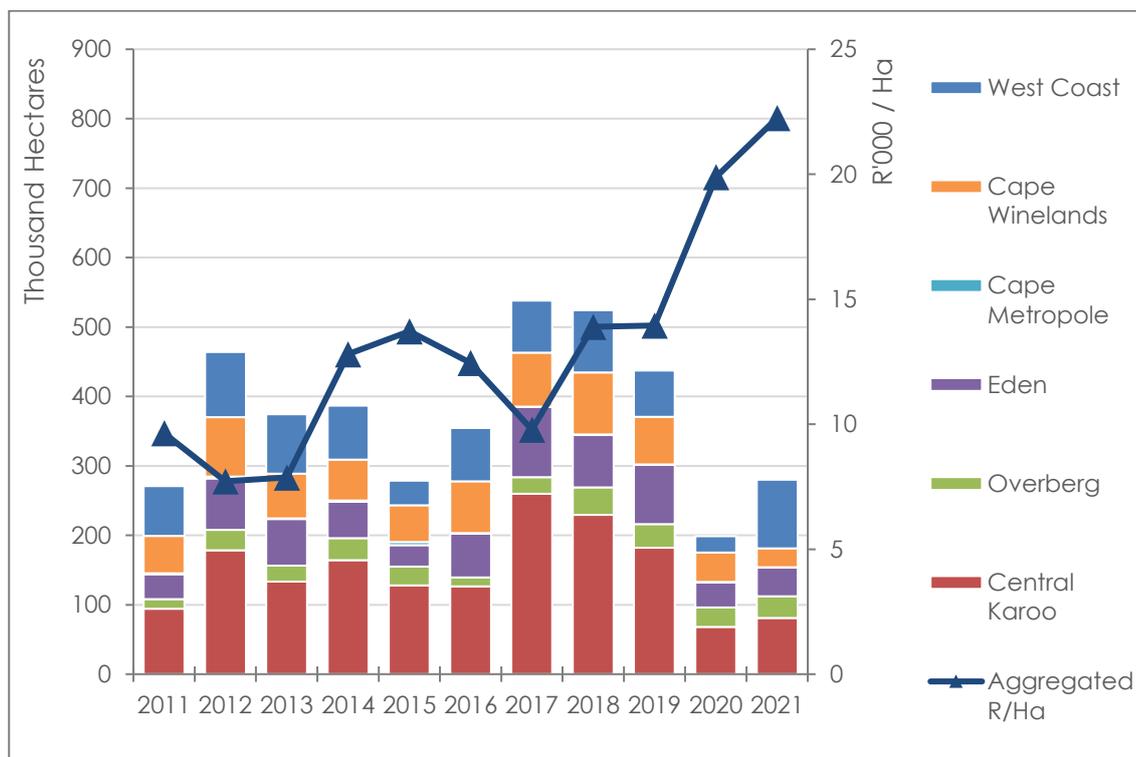


Figure 4.3: Agricultural Land Transferred and Aggregate Value (2015 prices), 2011-2021
 Source: (WCDoA, 2022b)

Table 4.4: Number of Agricultural Land Transactions by District, 2011-2021

	Central Karoo	Overberg	Eden	Cape Metropole	Cape Winelands	West Coast	Total
2011	41	72	137	18	158	93	519
2012	101	117	284	29	213	155	899
2013	65	88	242	13	170	143	721
2014	65	118	249	33	174	127	766
2015	47	87	203	42	142	89	610
2016	50	87	325	24	211	143	840
2017	87	97	327	5	207	147	870
2018	79	147	324	10	224	150	934
2019	69	118	301	2	161	127	778
2020	21	64	149	7	113	63	417
2021	29	54	288	1	142	122	636

Source: (WCDoA, 2022b)

Summary points

- In 2017 wine grapes, canola, barley, rooibos tea, apples, table grapes, pears and oranges under crop production in the province, with a significant share of the land used for wheat production (17%), followed approximately 2 million hectares of agricultural land.
- In terms of regions in the province, most of the grain crops, oilseeds and lupines are grown on the West Coast (35%) and the Overberg (30%).
- The West Coast also has the largest recorded area used to grow vegetables (36%), and almost the entire area used to produce tobacco, teas and hops combined (99%).
- More than half of the province's orchards are located in the Cape Winelands district (57%).
- There was an increase in both the average price of land and in the number of land transactions on the private market in the Western Cape for 2021.

5. AGRICULTURAL TRADE

The WC agricultural sector is exports orientated and in the past ten years, despite the challenges with the ports, Covid-19 and Loadshedding, the agricultural exports have grown strongly. At the same time, agricultural imports have remained relatively stable, but show a slight decline in 2021. However, there is still a widening trade balance for the sector as seen

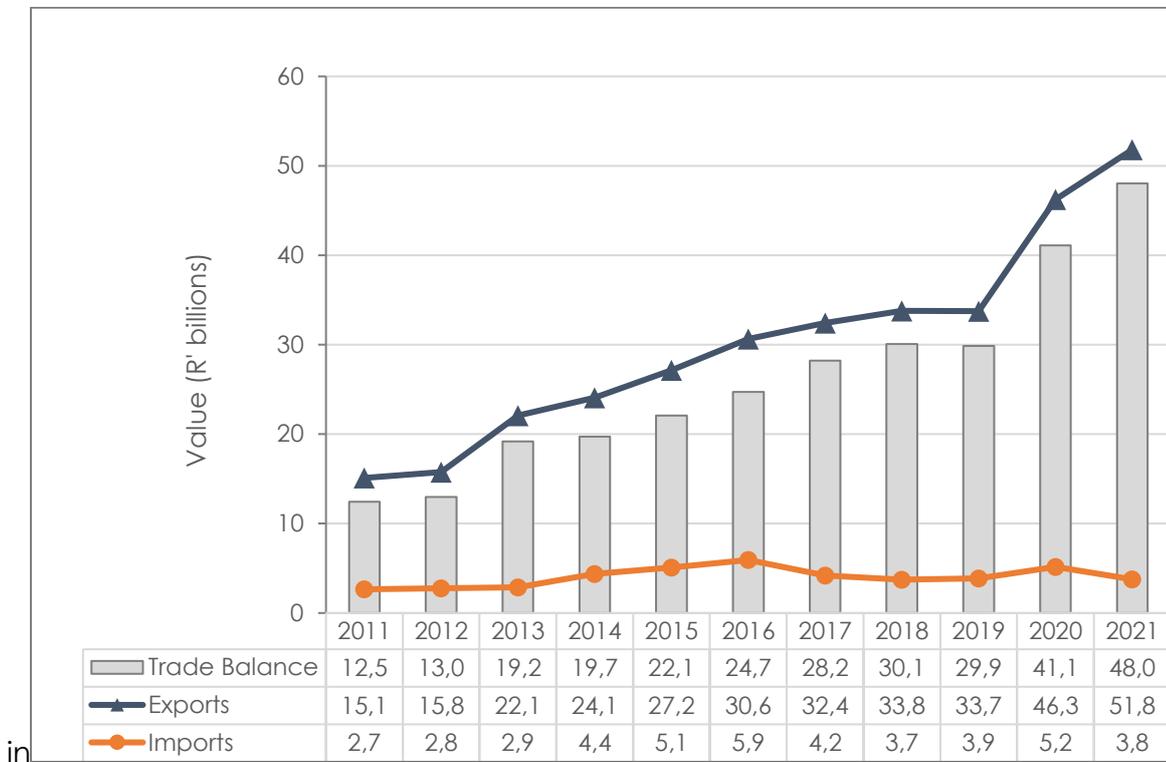


Figure 5.1 below. The last few years have seen an increase in agricultural exports. The WC agricultural exports increased from R46.3 billion in 2020 to R51.8 billion in 2021, and agricultural imports declined from R5.2 billion in 2020 to R3.8 billion in 2021.

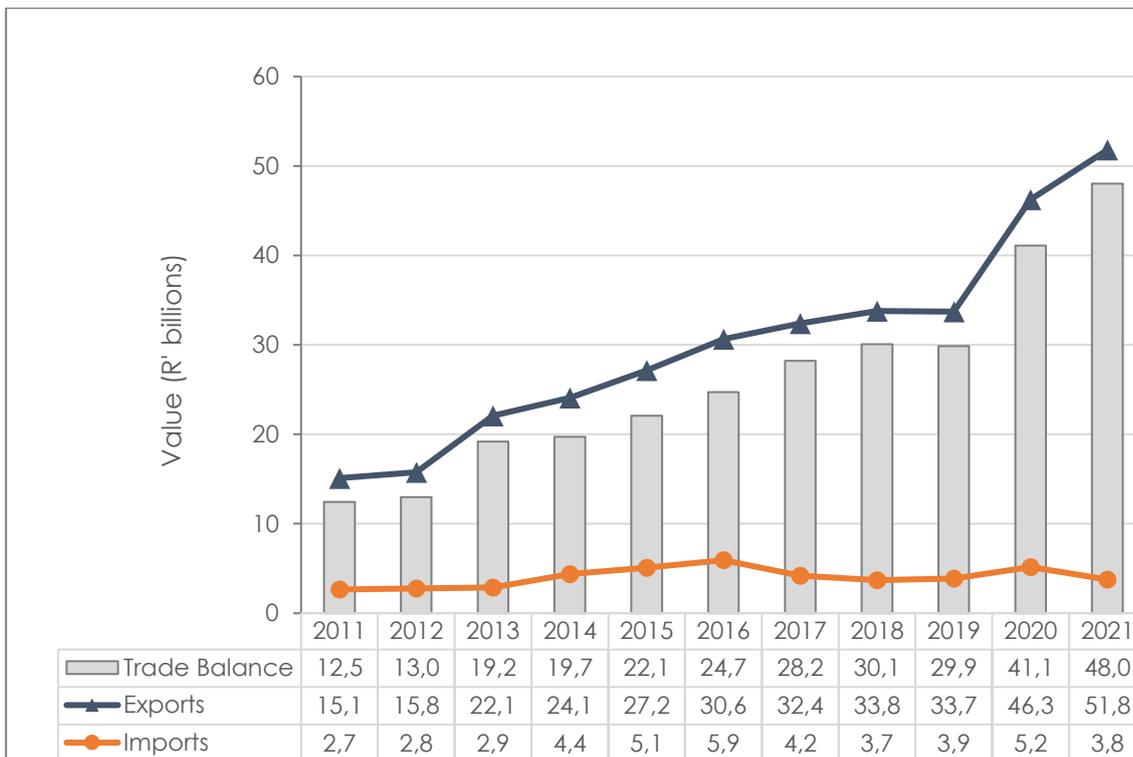


Figure 5.1: WC Agricultural Trade, 2011-2021

Source: (Quantec, 2022)

The FBT sector has shown positive economic performance in the past ten years. As shown in Figure 5.2, exports of FBT products grew strongly between 2009 and 2016, but imports of these products also grew resulting in a modest and relatively flat trade balance. Since 2016 there has been a continual decline in the value of exports until 2019, but from 2020 to 2021 the exports show an increase from R29.5 billion to R31.1 billion respectively. Whereas imports showed a slight increase by 7% in 2021.

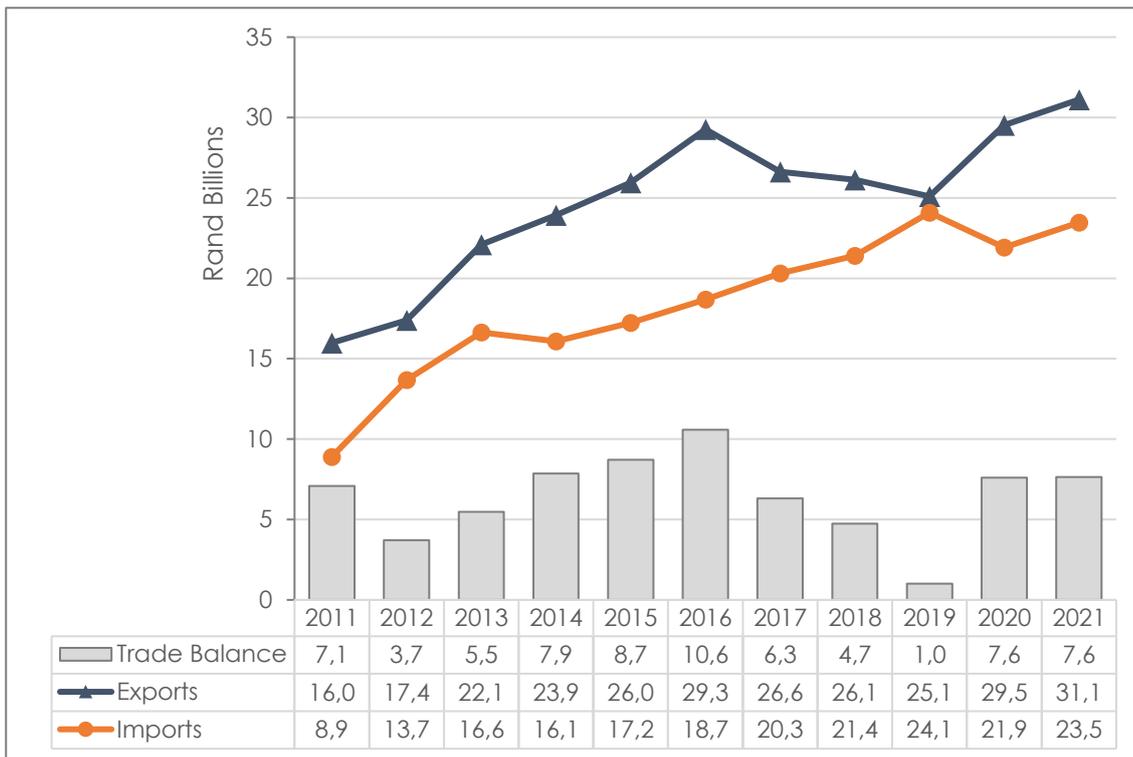


Figure 5.2: WC Food, Beverages & Tobacco (FBT) Trade, 2011-2021

Source: (Quantec, 2022)

The WC's agricultural share in national agricultural exports increased by 2% (from 53% to 55%) from 2020 to 2021. This is higher than the average over the past 10 years (2011 to 2021) showing a significant contribution and accounting for more than half of all South African agricultural exports. The province's share in national agricultural imports declined by 6% (from 23 % to 17%) between 2020 and 2021. The Western Cape's shares in both these trade flows are illustrated graphically in Figure 5.3.

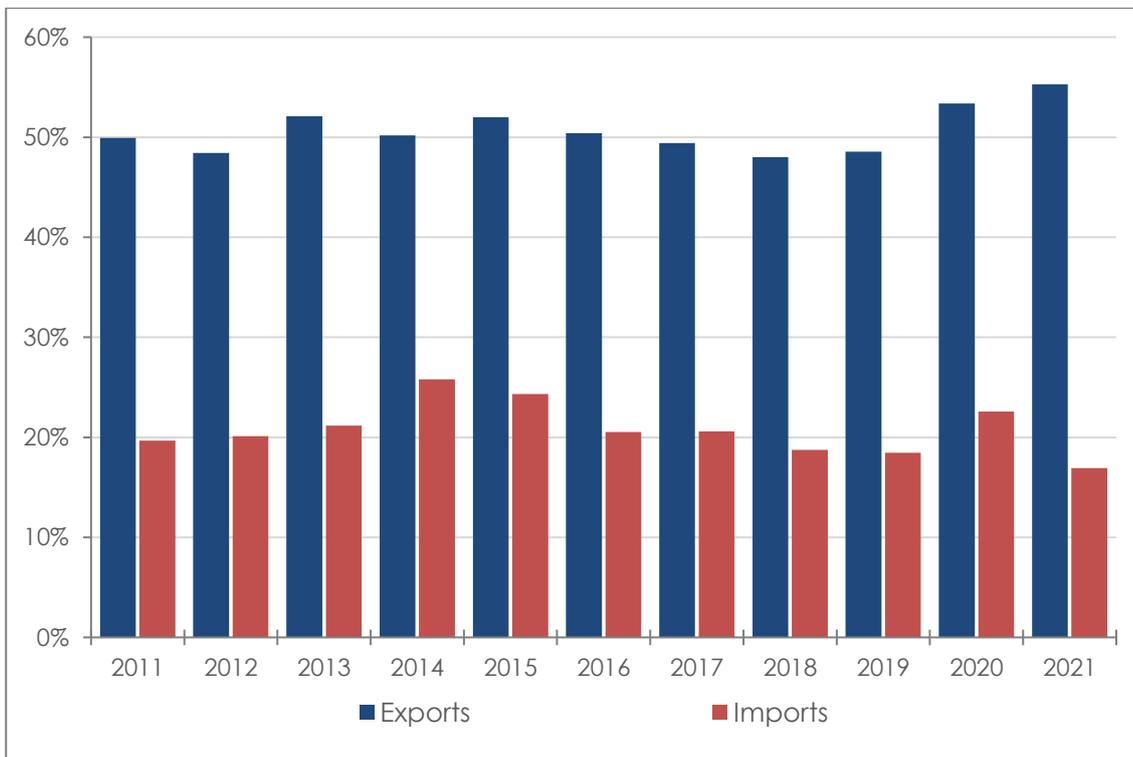


Figure 5.3: WC Share in National Agricultural Trade, 2011-2021

Source: (Quantec, 2022)

In 2021, the WC's share in national FBT exports reached 39%, which is a slight improvement from the previous year by 1%, but overall for the past ten years, this share has been declining from 43% recorded in 2011, 2013, 2015, and 2016. On the other front, the WC has become increasingly responsible for South Africa's FBT imports with the province's share rising from 22% in 2010 to 30% in 2021. The annual Western Cape import and export flows for the FBT segment are illustrated in Figure 5.4.

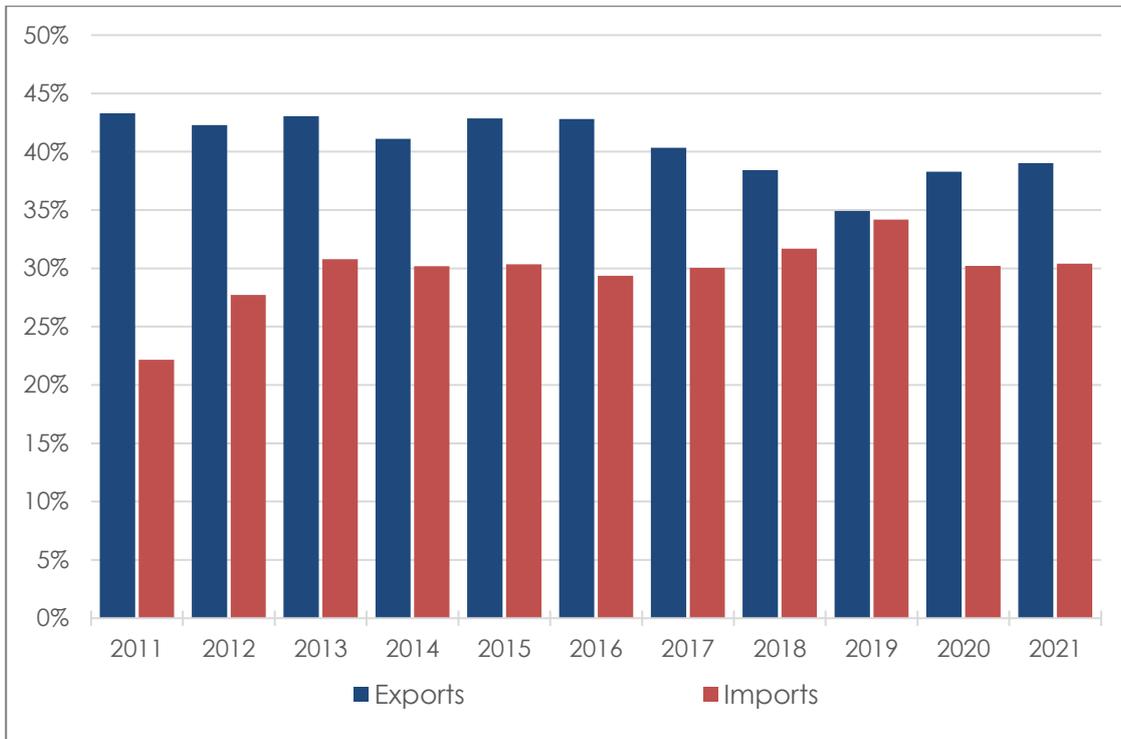


Figure 5.4: WC Share in National FBT Trade, 2011-2021

Source: (Quantec, 2022)

Figure 5.5 below compares the top 10 export destinations for agricultural goods in 2021 with the breakdown of a year prior. The main three agricultural export destinations in 2021 were the Netherlands (23%), United Kingdom (UK) at 15% and Russia (6%). The combined share of agricultural exports going to these regions was 44% in 2021.

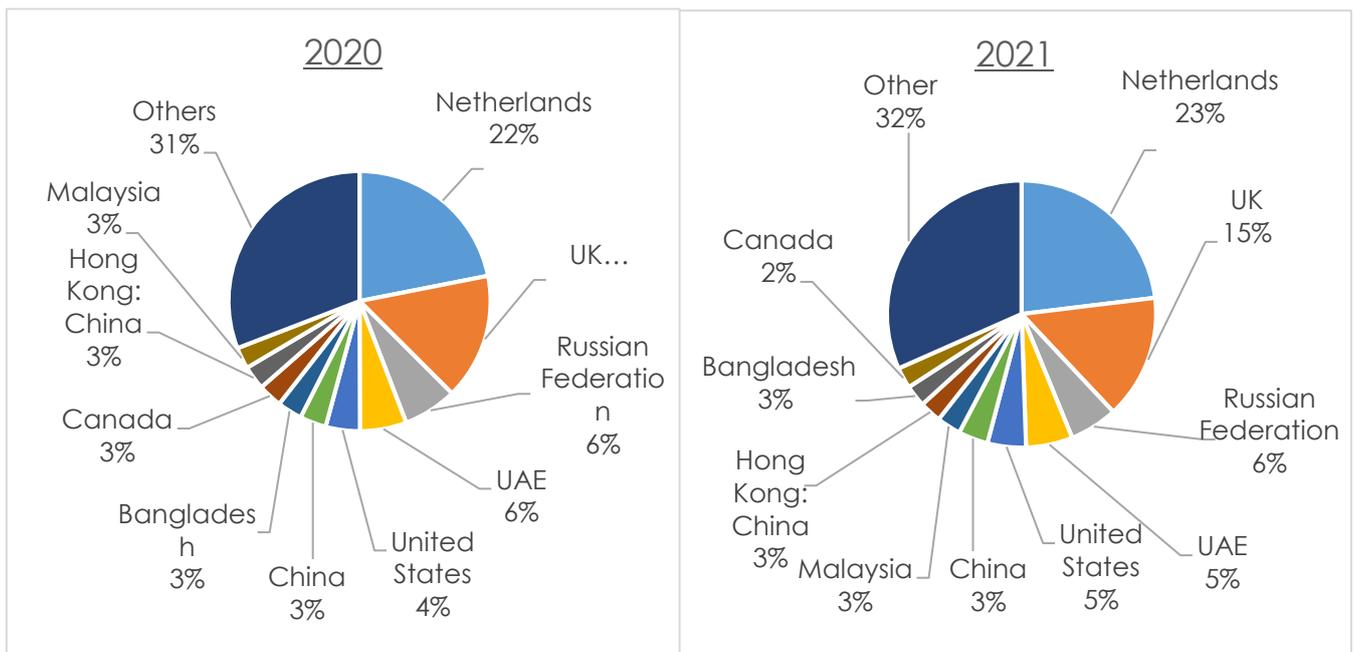


Figure 5.5: WC Agricultural Export Destinations - Countries, 2020 vs 2021

Source: (Quantec, 2022)

The share of WC agricultural exports to Africa remained at 9% in 2020 and 2021. Whereas, in other regions, it declined (e.g. Americas, Asia and Europe). The diversification of agricultural exports away from dependence on Europe towards markets in Africa and Asia had already been observed in the WC over the past decade (Partridge & Morokong, 2018). It is interesting to note that in recent years the share of agricultural exports going to Asia has declined in favour of African markets. Despite becoming significantly less important in recent times, Europe remains the biggest agricultural export destination, accounting for 40% of all exports as shown in Figure 5.6 below.

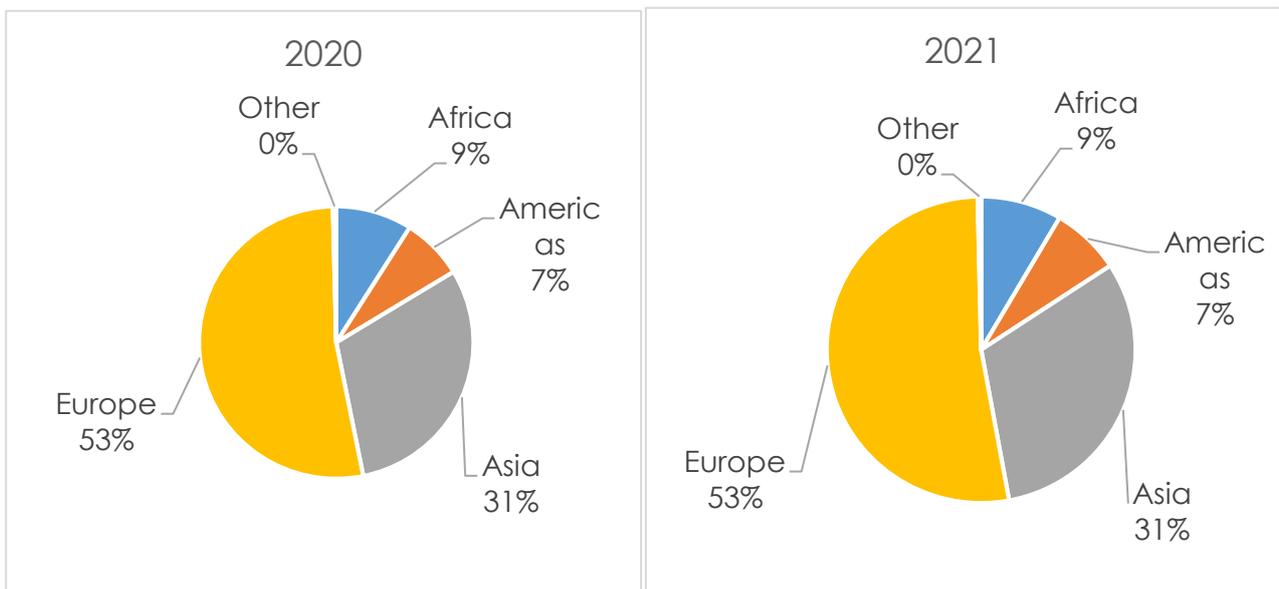


Figure 5.6: WC¹ Agricultural Export Destinations - Regions, 2020 vs 2021

Source: (Quantec, 2022)

In 2021, the WC top exports destinations for FBT products were United Kingdom (UK) (9%), Namibia (9%), USA (7%), and Botswana (7%) as indicated in Figure 5.7. However, compared to 2020, it is evident that the United States and Botswana took the lead from Spain and Germany which declined with the latter losing its spot in the top four destinations.

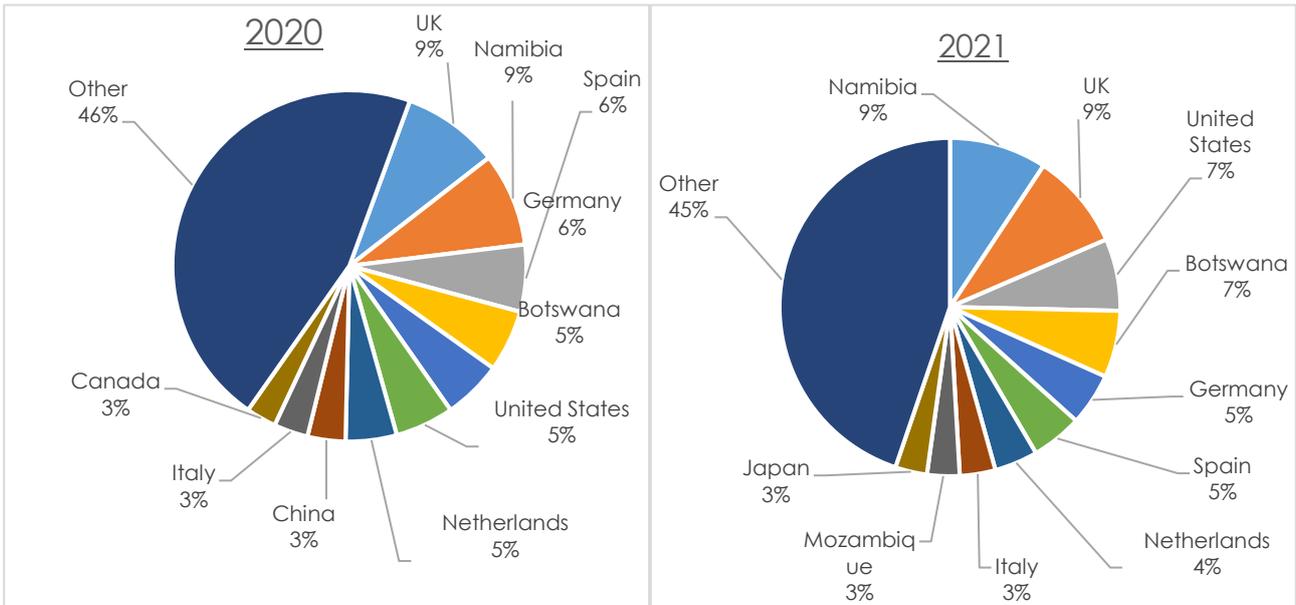


Figure 5.7: WC Top FBT Export Destinations - Countries, 2020 vs 2021

Source: (Quantec, 2022)

The regional breakdown of FBT exports did change significantly between 2020 and 2021 as it can be seen from the graphical representation in Figure 5.8. The year 2020 was characterised by major disruptions in trade, resulting in shifts in the share composition of export destinations. In 2021, WC exports of FBT to Africa increased by 2% and America by 1%. Whereas, Europe and Asia imports of WC FBT exports slightly declined.

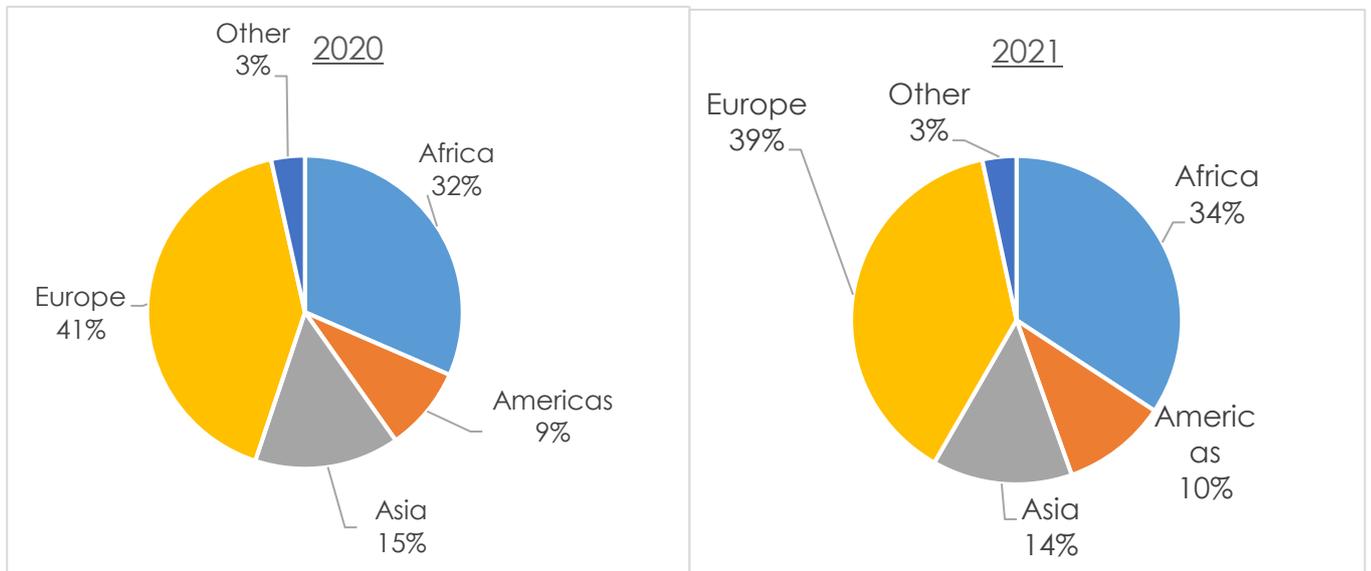


Figure 5.8: WC Top FBT Export Destinations - Regions, 2020 vs 2021

Source: (Quantec, 2022)

There was more volatility in the breakdown of agricultural imports into the WC during the period 2020 and 2021. As illustrated in Figure 5.9, in 2020 the WC top imports origins by share value were Russia accounting for 13%, Poland and United States (USA) each at 9% and Lithuania 7% to name a few. However, in 2021, there was a shift since the Lithuania was leading at 16%, followed by Spain and Namibia at 8%, each and United States at 7%.

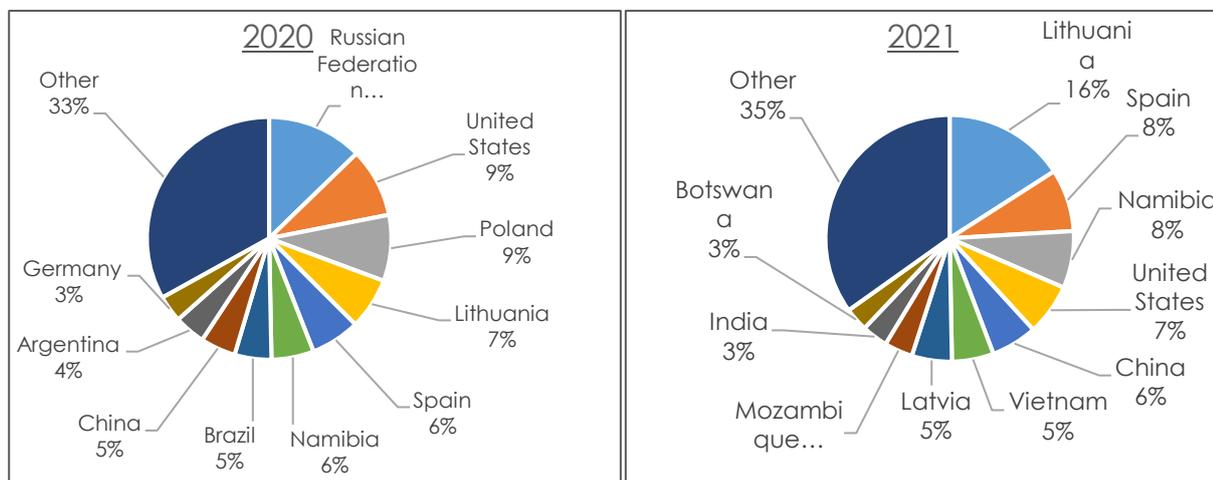


Figure 5.9: WC Agricultural Import Origins - Countries, 2020 vs 2021

Source: (Quantec, 2022)

In 2021 there were major shifts in the regional breakdown of agricultural import origins into the WC when compared to 2020 in Figure 5.10. Specifically, there was an increase in the share of imports from Africa from 19% in 2020 to 25% in 2021 and Asia 14% in 2020 to 20% in 2021. Whereas both Europe and America declined by 8% and 4% respectively.

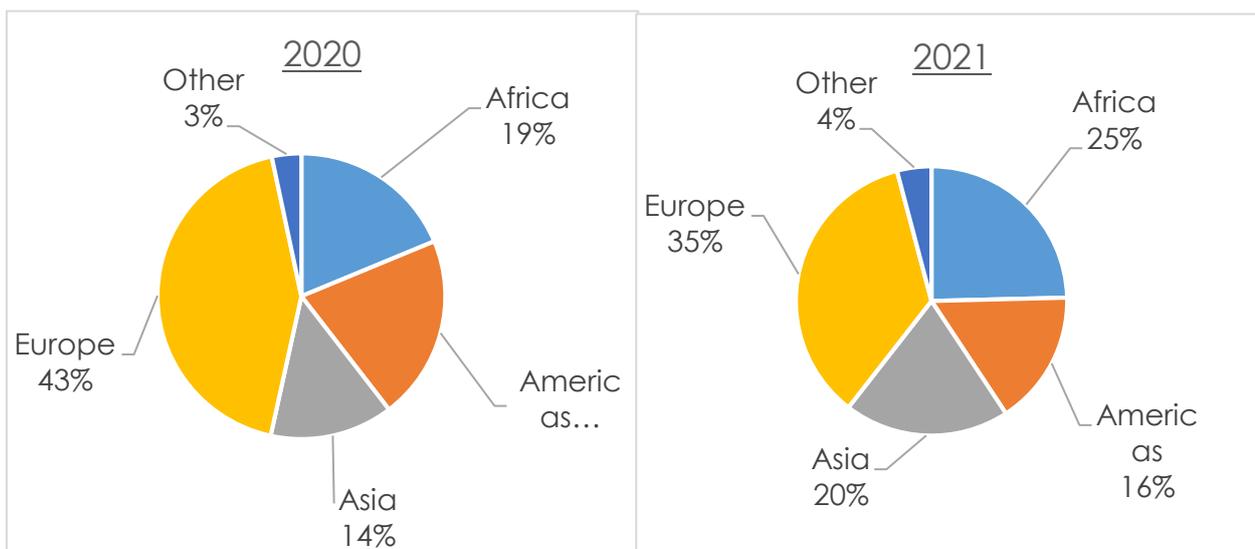


Figure 5.10: WC Agricultural Import Origins - Regions, 2020 vs 2021

Source: (Quantec, 2022)

The import origins of FBT products into the WC, broken down in Figure 5.11, the share changed from 2020 to 2021, Although Thailand remained the biggest importer, accounting for 21% and 18% in 2020 and 2021, the imports from Namibia remained unchanged at 5% and China and Netherlands share increased by 2% each.

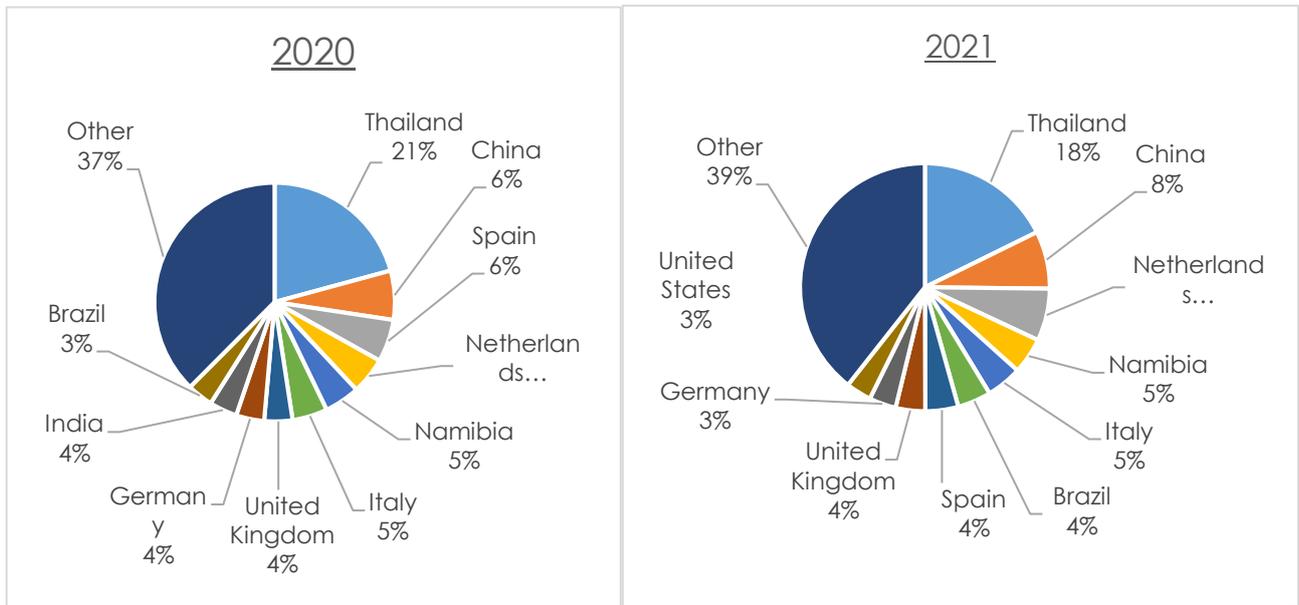


Figure 5.11: WC FBT Import Origins - Countries, 2020 vs 2021

Source: (Quantec, 2022)

The FBT imports origin markets are unstable and this is evident in the aggregated regional breakdown of import origins as shown in Figure 5.12. Europe remains the biggest regional importer, accounting for 41%, followed by Asia at 31%. The WC share of imports from Africa remained at 11% in 2021.

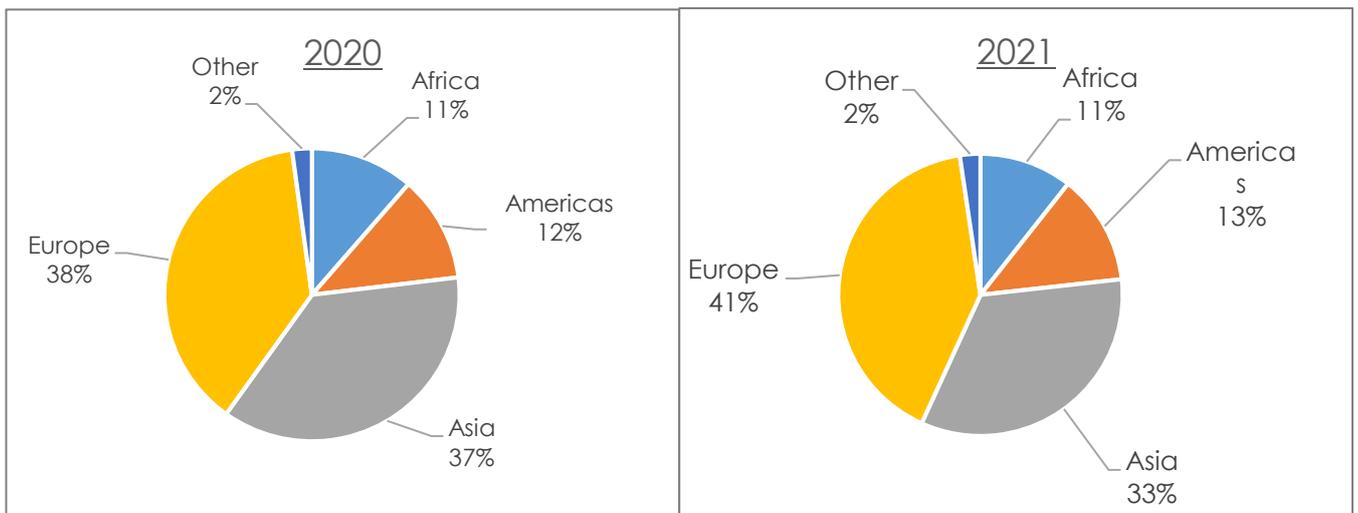


Figure 5.12: WC FBT Import Origins - Regions, 2020 vs 2021

Source: (Quantec, 2022)

A closer look at specific export products at the HS6-digit product level for agriculture and agri-processing products shows a broad range of agriculture and agri-processing products. Specifically, all those products fall under codes HS01-HS24 (excluding HS03); HS41-HS48; and HS50-HS53. This high level of product specification allows for certain agri-processing products to be identified, including those under other manufacturing sub-sectors, such as textiles and furniture, where they could not previously be identified at aggregated product levels. For the rest of this section “agricultural” will be used to refer to all agricultural and agri-processing products.

Table 5.13 shows the top 20 biggest WC agricultural exports by value for 2021 as well as the growth experienced in the past year. Table grapes export were in the first position accounting for 11% of all selected agricultural exports in value terms and grew by 24% in 2021. Followed by oranges, which fell from first place in 2020 to the second biggest export product in 2021.

Wine in the third place, was followed by apples and another product ranking according to the value of exports. The fastest growth rates over the past ten years are provided in Table 5.14, along with the share in total of WC agricultural exports. These products are ranked based on the highest growth in the past ten years. The top three products are grain splits of leather, pears and pumpkins, squash and gourds which grew by 217%, 177 % and 168% respectively.

Table 5.13: Biggest WC Agricultural and Agri Processing Exports by Value, 2021

#Rank	HS6	Description	Exports: 2021	%Share:2021	Real Growth: 2020-2021
1	080610	Table Grapes	9 148 402 257	11%	24%
2	080510	Oranges	8 378 853 986	10%	-3%
3	220421	Bottled wine<2l	7 066 686 696	9%	6%
4	080810	Apples	6 538 185 328	8%	6%
5	080521	Mandarins	6 419 562 641	8%	19%
6	080550	Lemons	2 972 490 426	4%	-12%
7	080830	Pears	2 876 930 836	4%	-4%
8	220429	Wine of Fresh Grapes	2 465 732 730	3%	26%
9	081040	Cranberries	2 185 255 778	3%	9%
10	080540	Grapefruit	1 566 872 193	2%	17%
11	080940	Plums & Slows	1 506 589 599	2%	69%
12	100590	Wine of Fresh Grapes	1 471 893 004	2%	207%
13	240220	Cigarettes with tobacco	1 253 592 591	2%	-21%
14	230120	Flours, meals & Pallets of fish	1 017 626 887	1%	-39%
15	220600	Other fermented beverages	974 760 117	1%	37%
16	080930	Peaches (incl. nectarines)	778 174 629	1%	36%
17	200990	Mixture of Juices	776 599 831	1%	10%
18	200870	Peaches & Nectarines	680 687 826	1%	-10%
19	080620	Dried Grapes	651 563 438	1%	-1%
20	220422	Wine of Fresh Grapes>2l	632 450 943	1%	-15%
		Other Agricultural exports	21 493 842 616	27%	6%

Source: (Quantec, 2022)

Table 5.14: Fastest Growing WC Agricultural and Agri Processing Exports, 2011-2021

#Rank	HS6	Description	Exports: 2021	Share %	10- Year Annual Growth(%)
1	410712	Grain splits leather	3 842 479	0.00%	216.58
2	080830	Pears	2 876 930 836	3.56%	176.87
3	070993	Pumpkins, squash & gourds	181 192 993	0.22%	167.66
4	070999	Fresh or chilled vegetables n.e.s	134 766 658	0.17%	156.98
5	080929	Fresh or dried pine nuts, shelled	52 315 034	0.06%	154.80
6	530500	Coconut	2 657 981	0.00%	144.37
7	020311	Carcases and half-carcass	22 944 694	0.03%	132.84
8	020421	Fresh or chilled sheep carcases (excl. lambs)	29 803 042	0.04%	130.91
9	410640	Tanned or crust hides and skins of reptiles	9 881 858	0.01%	122.47
10	091011	Ginger	10 846 798	0.01%	120.47
11	150710	Crude oil	507 052	0.00%	119.20
12	020410	Carcases of lamb, fresh or chilled	26 878 742	0.03%	116.72
13	510111	Shorn wool	2 032 500	0.00%	109.53
14	020430	Carcases of lamb, frozen	2 316 697	0.00%	109.20
15	151221	Crude oil, with gossypol or not	296 169	0.00%	107.52
16	200897	Mixtures of fruits, nuts & other edible parts of plants	299 979 971	0.37%	106.81
17	020622	Frozen edible bovine livers	16 856 146	0.02%	104.60
18	080390	Banana(excl. plantations)	41 500 948	0.05%	100.44
19	530110	Flax, raw or ratted	777 656	0.00%	99.04
20	100510	Maize Seed	298 182 780	0.37%	91.60
		Other Agricultural Exports	76 842 243 318	95.04%	9.40

Source: (Quantec, 2022)

In Table 5.15 is the biggest WC agricultural imports by value and growth rate over a year, ranked by export value. The products in lead are wholly milled rice, guts, bladders & stomachs of animals (excl. fish), apple juice (unfermented) wheat and meslin, and prepared sardines among others.

Table 5.15: Biggest WC Agricultural and Agri Processing Imports by Value, 2021

Rank	#HS6	Description	Imports :2021	Share :2021	Real Growth:2020 -2021
1	100630	Semi/Wholly milled rice	3 293 312 669	11.7%	-16%
2	050400	Guts, bladders & stomachs of animals (excl. fish)	975 739 203	3.5%	5%
3	200979	Apple Juice, unfermented	922 223 981	3.3%	51%
4	310540	Ammonium dihydrogenorthophosphate	867 089 936	3.1%	1722%
5	100199	Wheat & Meslin	793 681 761	2.8%	-55%
6	220830	Whiskies	777 465 504	2.8%	50%
7	240220	Cigarettes with tobacco	766 159 758	2.7%	31%
8	220210	Water inclu. mineral & aerated waters	757 333 940	2.7%	27%
9	160414	Sardines	751 520 934	2.7%	-21%
10	20714	Cuts & Offal, frozen	718 993 377	2.6%	20%
11	150791	Soya-bean oil	675 130 379	2.4%	26%
12	230910	Dog or cat food	580 045 341	2.1%	16%
13	210690	Food Preparations, n.e.s	535 660 969	1.9%	1%
14	160415	Tuna, skipjack & bonito	470 248 857	1.7%	17%
15	151191	Palm oil & its fractions	427 036 873	1.5%	28%
16	020712	Frozen fowls of Gallus	412 486 453	1.5%	14%
17	230110	Flours, meals & Pallets	410 820 902	1.5%	27%
18	310210	Urea, whether or not in aqueous solution	395 361 905	1.4%	358%
19	180690	Chocolate & other prep. Containing cocoa	353 083 476	1.3%	-8%
20	190219	Uncooked pasta	292 582 856	1.0%	3%
		Other Agricultural Imports	12 863 469 569	45.9%	1%

Source: (Quantec, 2022)

Again looking at the growth rates of agricultural imports regardless of the base amount, Table 5.16 shows that prepared meat or offal of bovine animals grew 247%. This was followed closely by fresh soya-beans oil, meat and edible offal, and groats & meal cereals, which grew by 226.59%, 174 and 170% respectively.

Table 5.16: Fastest Growing WC Agricultural and Agri Processing Imports, 2011-2021

#Rank	#HS6	Description	Imports: 2021	Share (%)	10- Year Annual Growth(%)
1	150790	Soya-bean oil & its fractions	675 130 379	2,41%	226,59
2	021099	Meat & edible offal	2 565 482	0,01%	174,14
3	110319	Groats & meal cereals (excl. wheat & maize)	24 165 755	0,09%	170,27
4	020120	Fresh or chilled bovine cuts	1 600 366	0,01%	123,70
5	080122	Brazil nuts	13 901 265	0,05%	104,14
6	160249	Meat & offal of swine	48 610 314	0,17%	103,12
7	520612	Single cotton yarn containing, but <85% cotton, uncombed	952 357	0,00%	95,92
8	510620	Carded wool yarn	694 800	0,00%	94,87
9	071030	Spinach, New Zealand & orache spinach	2 273 279	0,01%	93,53
10	070490	Fresh or chilled cabbages	533 316	0,00%	93,10
11	210230	Prepare baking powders	651 558	0,00%	86,73
12	310230	Ammonium Nitrate	190 096	0,00%	84,15
13	160553	Mussels	32 134 858	0,11%	81,05
14	040900	Natural honey	85 616 344	0,31%	75,27
15	151190	Palm oil & its frictions	427 036 873	1,52%	74,77
16	071331	Beans of Vigna mungo	1 230 860	0,00%	74,39
17	230240	Cereals	6 481 064	0,02%	71,99
18	510130	Carbonised	20 949	0,00%	71,90
19	081040	Berries	7 770 567	0,03%	71,29
20	521059	Woven fabrics of cotton	6 274 692	0,02%	70,66
		Other Agricultural Imports	26 701 613 469	95,23%	8,21

Source: (Quantec, 2022)

Summary points

- The last few years have seen an increase in agricultural exports. The WC agricultural exports increased from R46.3 billion in 2020 to R51.8 billion in 2021, and agricultural imports declined from R5.2 billion in 2020 to R3.8 billion in 2021.
- Europe remains the biggest regional importer, accounting for 41%, followed by Asia at 31%. The WC share of imports from Africa remained at 11% in 2021.

6. AGRICULTURAL EMPLOYMENT

Figure 6.1 illustrates the seasonally adjusted employment numbers in the WC agricultural sector, measured by quarterly period moving averages. In 2021, the agricultural employment numbers decreased from 178 761 to 166 615, showing a decline of 12 146 jobs (-7% decrease). The agricultural sector's share in total WC employment remained at 7% in 2021.

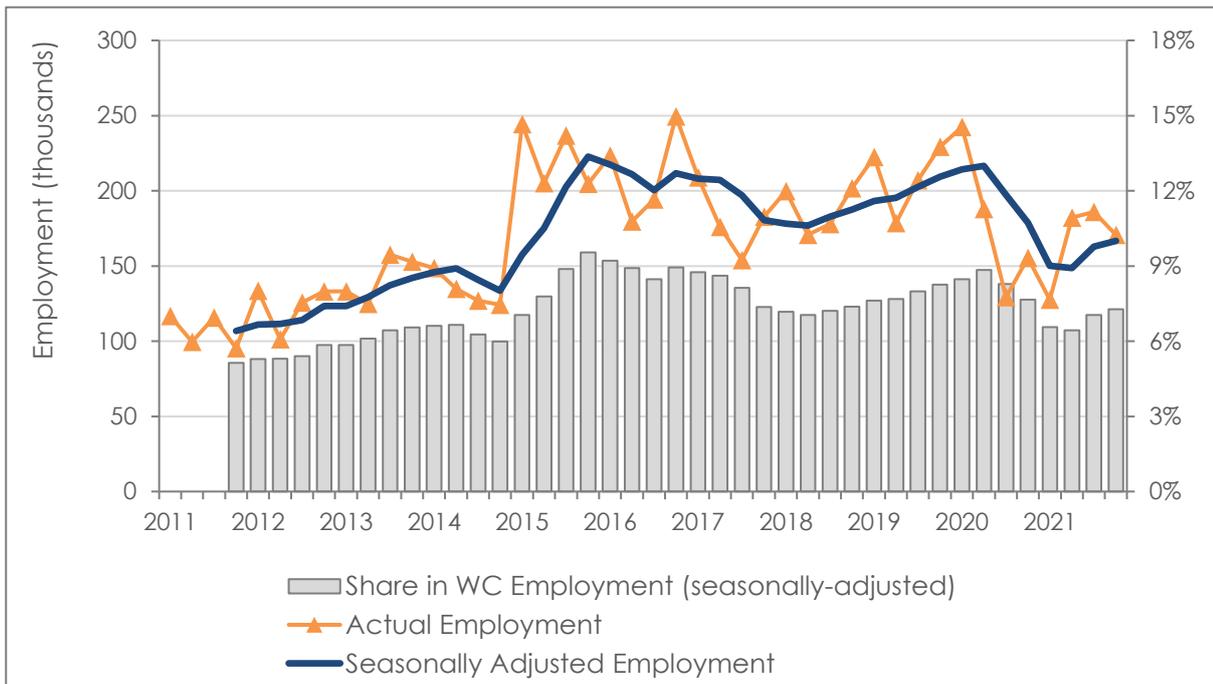


Figure 6.1: WC Employment in Agriculture, 2011-2021

Source: (Stats SA, 2022b)

However, employment in the Food, Beverages and Tobacco (FBT) sector decreased in 2021. Seasonally adjusted employment in the sector, shown in Figure 6.2, decreased from 139 471 in 2020 to 116 895 in 2021 (16% decline). As consequence, the share of the sector in total provincial employment slightly dropped from 6.2% to 5.1%. The employment series in Figure 6.3, also illustrates the province's share of employment in the national agricultural and FBT sectors. A decline in both FBT and agricultural employment numbers resulted in an overall share decline of 3%. A breakdown shows that in 2021, the WC's share in national agricultural employment declined from 23.1% to 21.1% and the province's share in national FBT employment significantly grew from 38.6% to 36%.

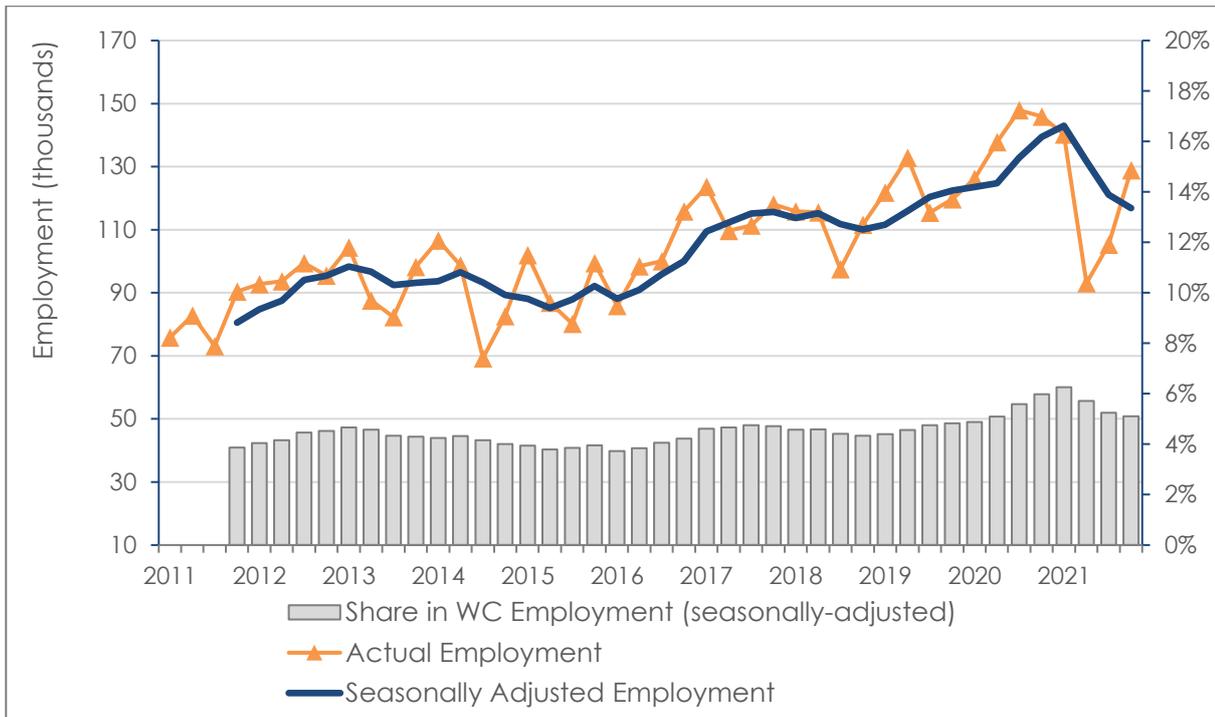


Figure 6.2: Western Cape Employment in Food, Beverages & Tobacco (FBT) 2011-2021
 Source: (Stats SA, 2022b)

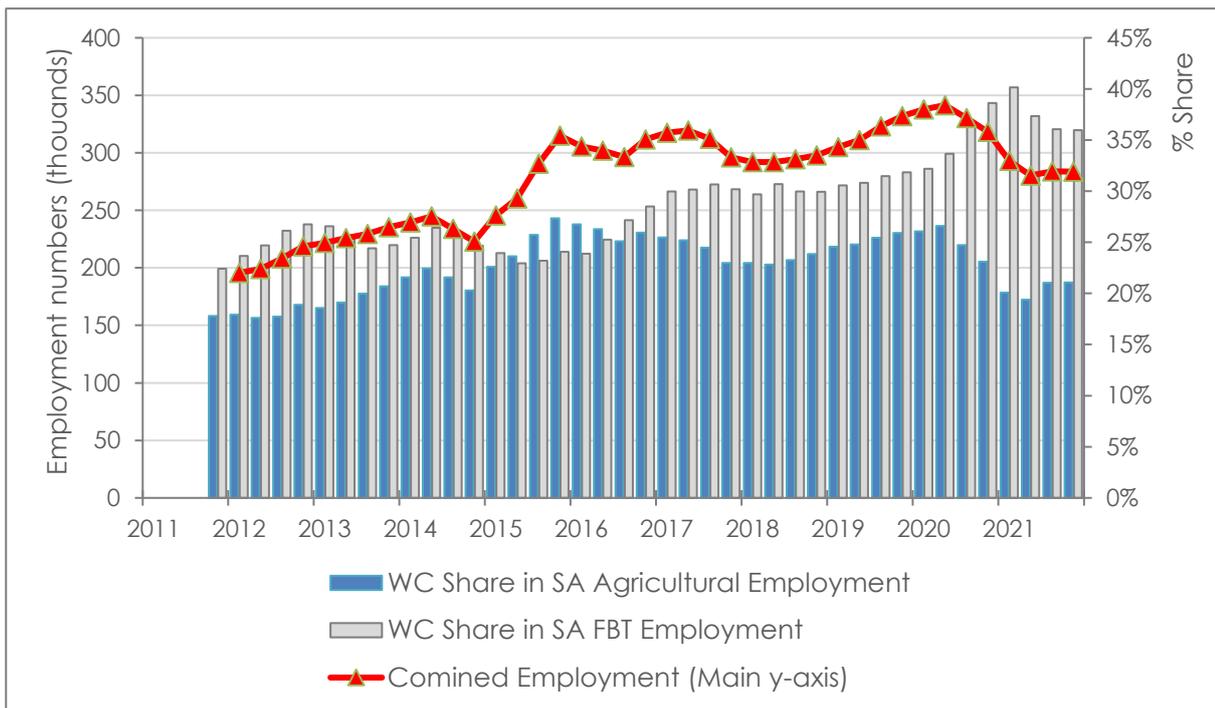


Figure 6.3: WC Share in National Sectoral Employment (seasonally adj.), 2010-2020
 Source: (Stats SA, 2022b)

The overall decline in agricultural employment has a severe impact on the labour force based in the rural areas, especially semi and low skilled labour force.

Table 6.4 presents a breakdown of agriculture and FBT sectors employment based on demographics in 2020 and 2021. Overall employment of black² individuals increased by 1% share from 84% to 85%. A closer look at the data shows that those in agriculture increased by 3%, whereas in FBT there was a decline of 1, 8% in the relative change in 2021. The female labour force share of both sectors' labour force increased from 41% to 45% from 2020 to 2021. The youth labour force on the contrary, decreased by 8% in both sectors. For the rural labour force as a whole, there was an increase of 1.4% for both sectors.

Table 6.4: Demographics of Western Cape Agricultural Employment, 2020 vs 2021

	Black	Female	Youth	Rural
<u>Agriculture</u>				
2020	84%	37%	46%	69%
2021	87%	39%	38%	70%
<i>Relative Change</i>	3,0%	2,6%	-8,4%	0,7%
<u>Food, Beverages and Tobacco</u>				
2020	85%	47%	44%	2%
2021	83%	53%	41%	0%
<i>Relative Change</i>	-1,8%	6,0%	-2,9%	-1,8%
<u>Combined</u>				
2020	84%	41%	47%	40%
2021	85%	45%	39%	41%
<i>Relative Change</i>	1,0%	3,7%	-8,0%	1,4%

Source: (Stats SA, 2022b)

Figure 6.5 gives the breakdown of agricultural employees in the WC by district with the corresponding shares of employment being attributed to permanent or full-time work and seasonal or part-time work. Almost half of all employees are located in the Cape Winelands District with the West Coast and Overberg districts combined accounting for an additional third. The share of seasonal or part-time employment varies across the districts from a low

² "Black" is defined according to the Broad-Based Black Economic Empowerment (B-BBEE) Act of 2003 which states that "'black people' is a generic term which means Africans, Coloureds and Indians" (RSA Presidency, 2003, p. 4). The definition was amended in 2013 to include the qualification of being a South African citizen (RSA Presidency, 2014). The QLFS does not capture individuals' citizenship status so this analysis had to take the pre-amendment definition without the citizenship qualification.

base of 22% for the City of Cape Town, to as much as 51% and 53% for the West Coast and Central Karoo respectively.

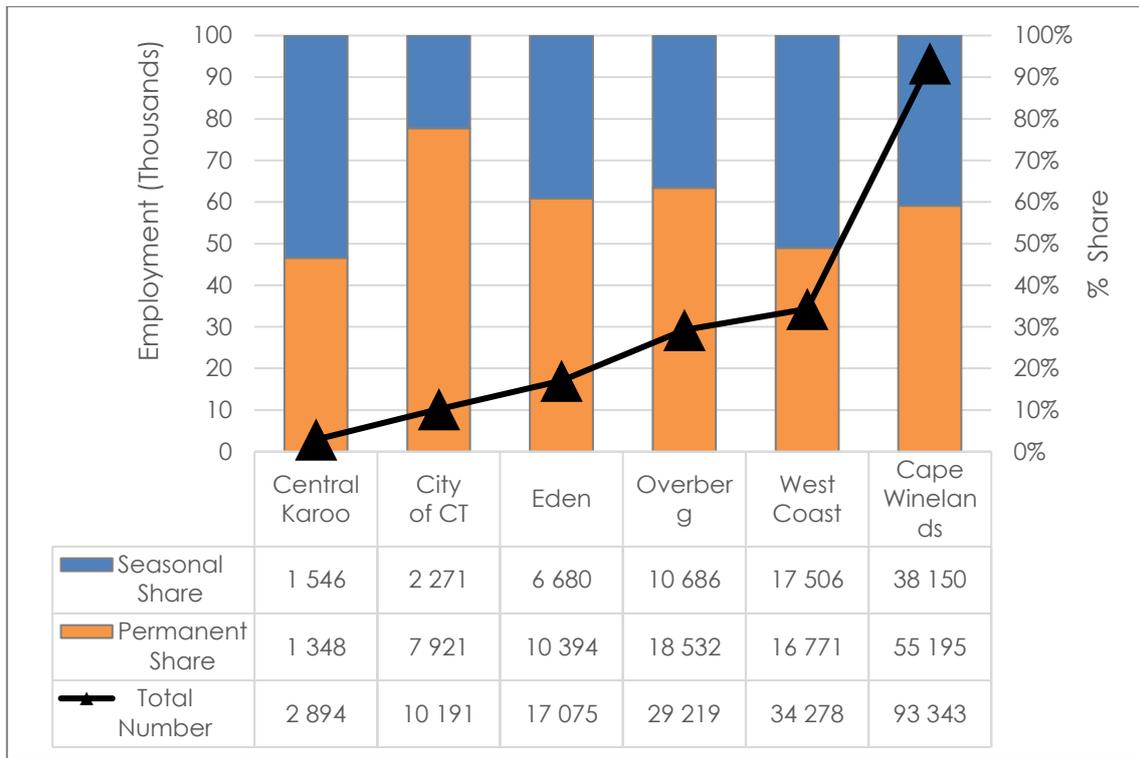


Figure 6.5: Breakdown of Western Cape Commercial Agricultural Employees by District, 2017
 Source: (Stats SA, 2020)

The municipal breakdown of agricultural employment in the WC by municipalities in Figure 6.6 illustrates that Witzenberg is the municipality with the highest share of agricultural employment (14%), followed by Breede Valley (13%), both situated in the Cape Winelands District. The third biggest employer at the municipal level is Theewaterskloof in the Overberg District (10%).

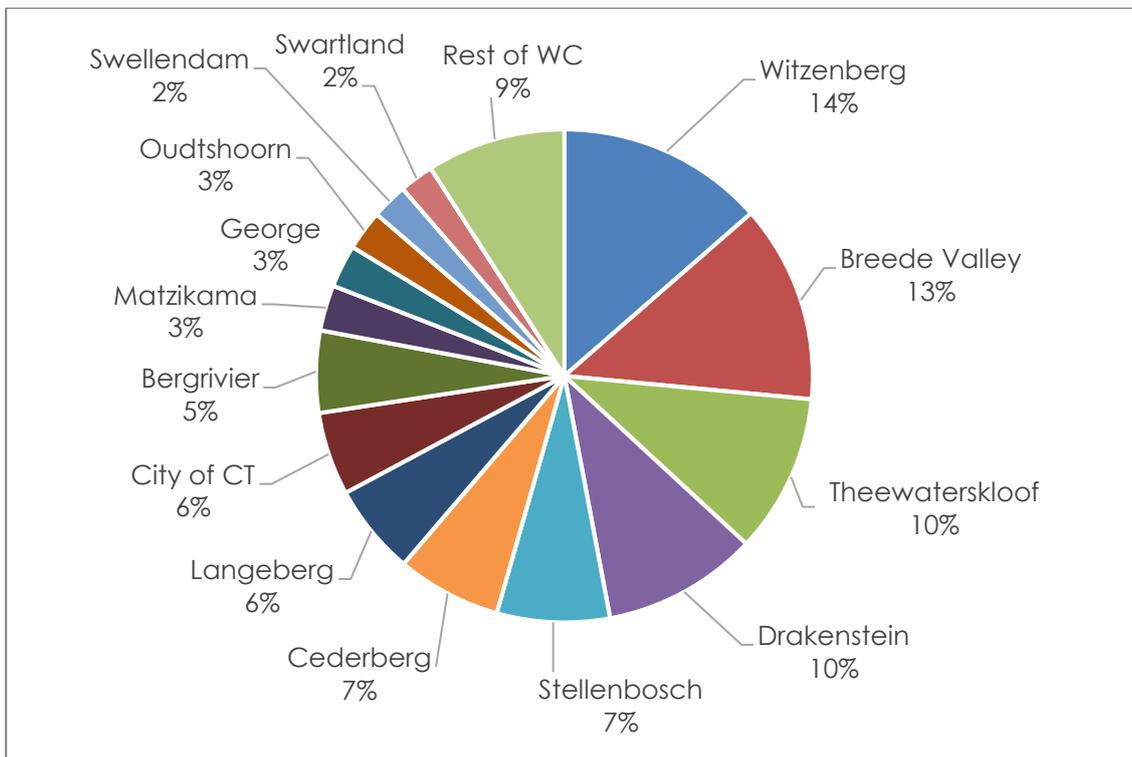


Figure 6.6: Breakdown of Western Cape Commercial Agricultural Employees by Municipality, 2017

Source: (Stats SA, 2020)

Summary points

- In 2021, the agricultural employment numbers decreased from 178 761 to 166 615,
- The agricultural sector's share in total WC employment remained at 7% in 2021.
- A closer look at the data shows that labour force in agriculture increased by 3%, whereas in FBT there was a decline of 1,8% in the relative change in 2021.

7. SUBSISTENCE FARMING

Subsistence farming is essential for supporting livelihoods in both rural and urban areas, even though rural dwellers are more reliant on it compared to their urban counterparts. Figure 7.1 shows the weighted number of households in the WC who were recorded as partaking in agricultural activities outside of paid employment during the period 2011 and 2021. Households, where agricultural activities were for leisure purposes only, were excluded so that the results show only those households farming for subsistence purposes or to sell their produce.

Figure 7.1 shows the number of households participating in non-commercial agriculture during the period between 2011 and 2021. Over the 10 year period the number of households involved in non-commercial agriculture increased by 2% and for the recent 5 years increased by 7%. Although, this growth was not consistent due to the influence of various factors including the recent drought in the WC which negatively affected agriculture in general. 2020 was characteristic by lock-down restrictions which limited people's movement and there was a spike in the number of household practicing non-commercial agriculture. In 2021, there was a drop of 26% in household participation in non-commercial agriculture.

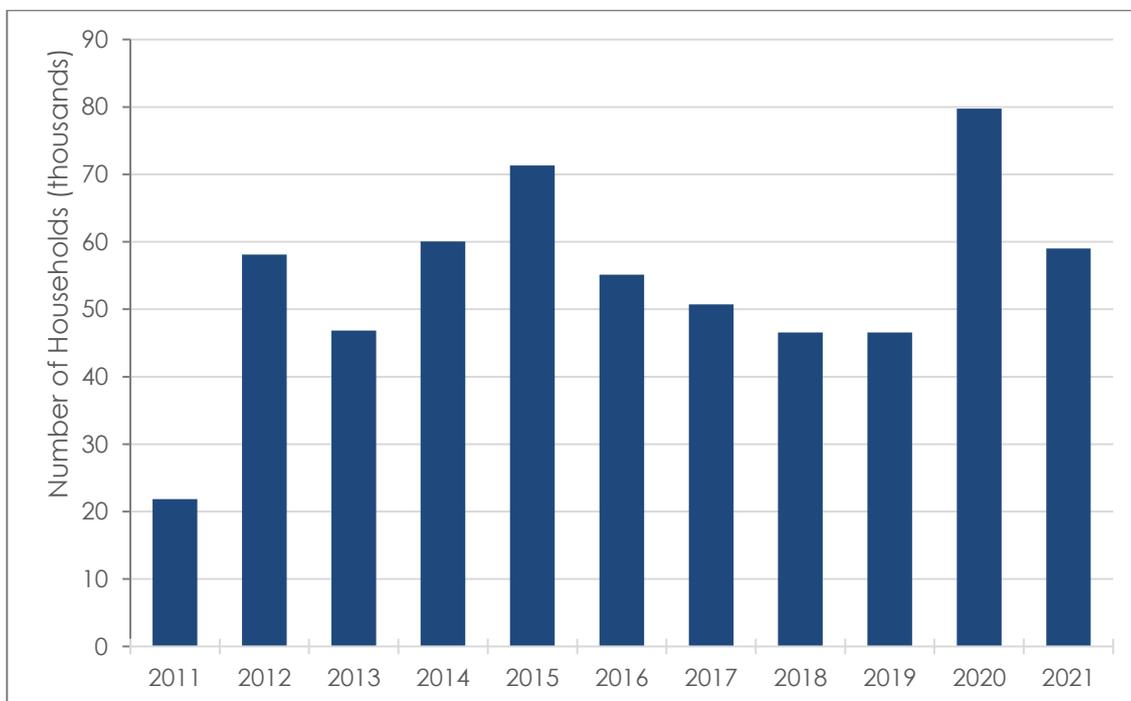


Figure 7.1: Households Involved in Non-Commercial Agriculture, 2011-2021

Source: (Stats SA, 2021)

When analysing Figure 7.1 above, it is also important to consider the effect of the covid-19 pandemic and the good rainfall received since 2018, following the period of the drought and water restrictions. Figure 7.2 compares the number of households in 2011 and 2016 and in each classification of specific agricultural activities undertaken. Over these five years, there has been a decline in the number of households only rearing animals and an increase in the number growing only crops. There was also a decline in the number of households that farmed with animals and grew crops, as well as the number of households whose activities do not fall within one of the three aforementioned groups. In 2016, more than half (58%) of agricultural households in the province exclusively grew crops. This is a relative increase from a share of 35% in 2011.

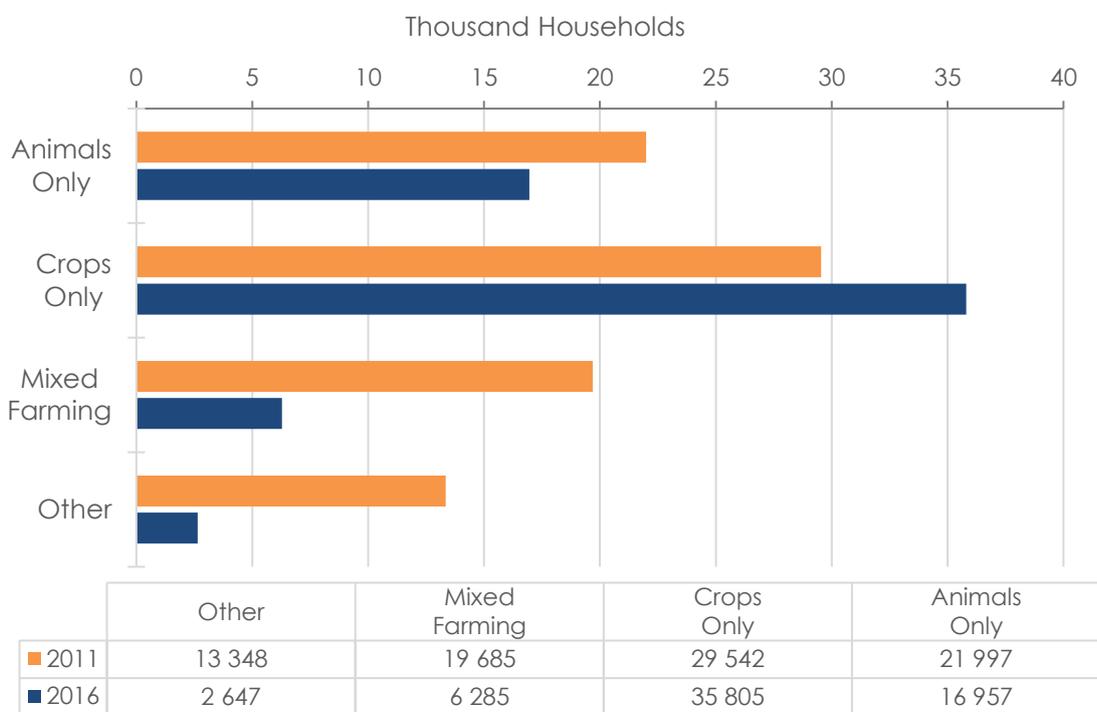


Figure 7.2: WC Agricultural Households by Activity, 2011 vs 2016

Source: (Stats SA, 2016)

Focusing on livestock activities, broken down by type in Figure 7.3, the decline was almost uniformly felt across the different livestock options. Except for households farming pigs only, there was a very slight increase from 947 to 965 over the past 5 years.

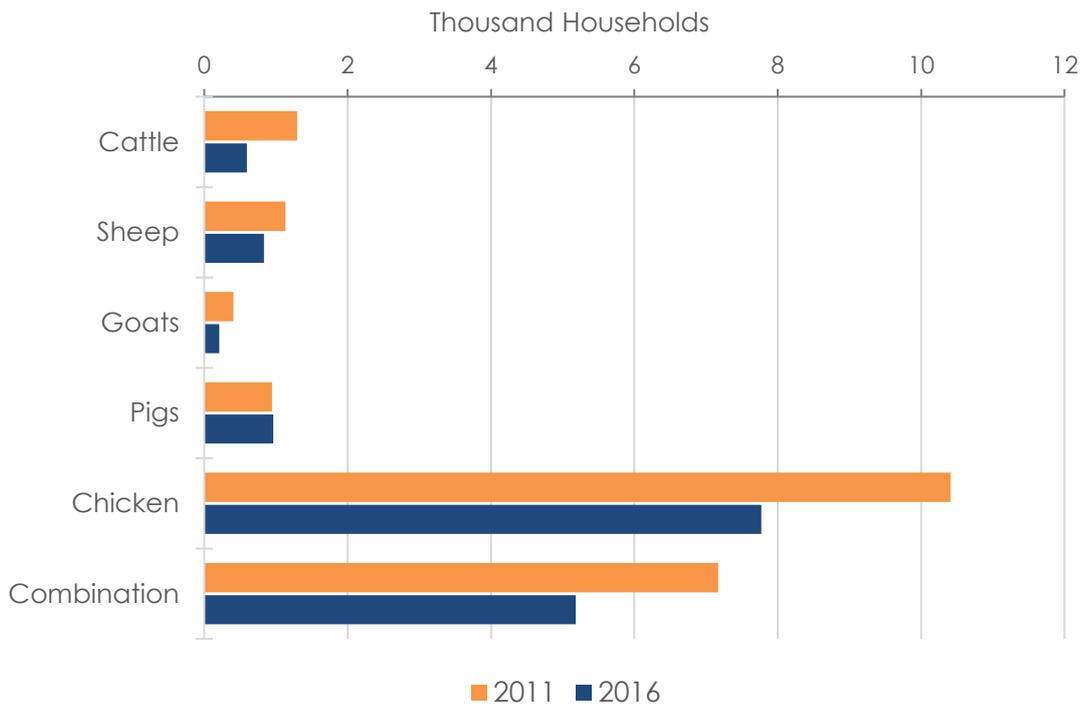


Figure 7.3: WC Livestock Households by Livestock Type, 2011 vs 2016

Source: (Stats SA, 2016)

The biggest net decline was in households rearing chickens which fell from 10 411 to 7 773 (a decline of 2 638 households). However, it should be noted that this is from a large base as even with this drop the share in total households with livestock stood at 50% in 2016. The biggest relative decline was in cattle farming where the drop from 1 294 to 597 households worked out to a drop of 54%. Whilst it is hard to pinpoint the exact reason for these changes the onset of the drought nationwide would be expected to play a role.

Summary points

- Over the 10 year period the number of households involved in non-commercial agriculture increased by 2% and for the recent 5 years increased by 7%.
- The year 2020 was characteristic by lock-down restrictions which limited people's movement and there was a spike in the number of households practicing non-commercial agriculture.
- In 2021, there was drop of 26% in household participation in non-commercial agriculture.

8. INVESTMENT IN AGRICULTURE

In real terms investment in the WC agricultural industry increased by 32% reaching R5.2 billion in 2021 (Figure 8.1), which is a 15% share in national agricultural investment.

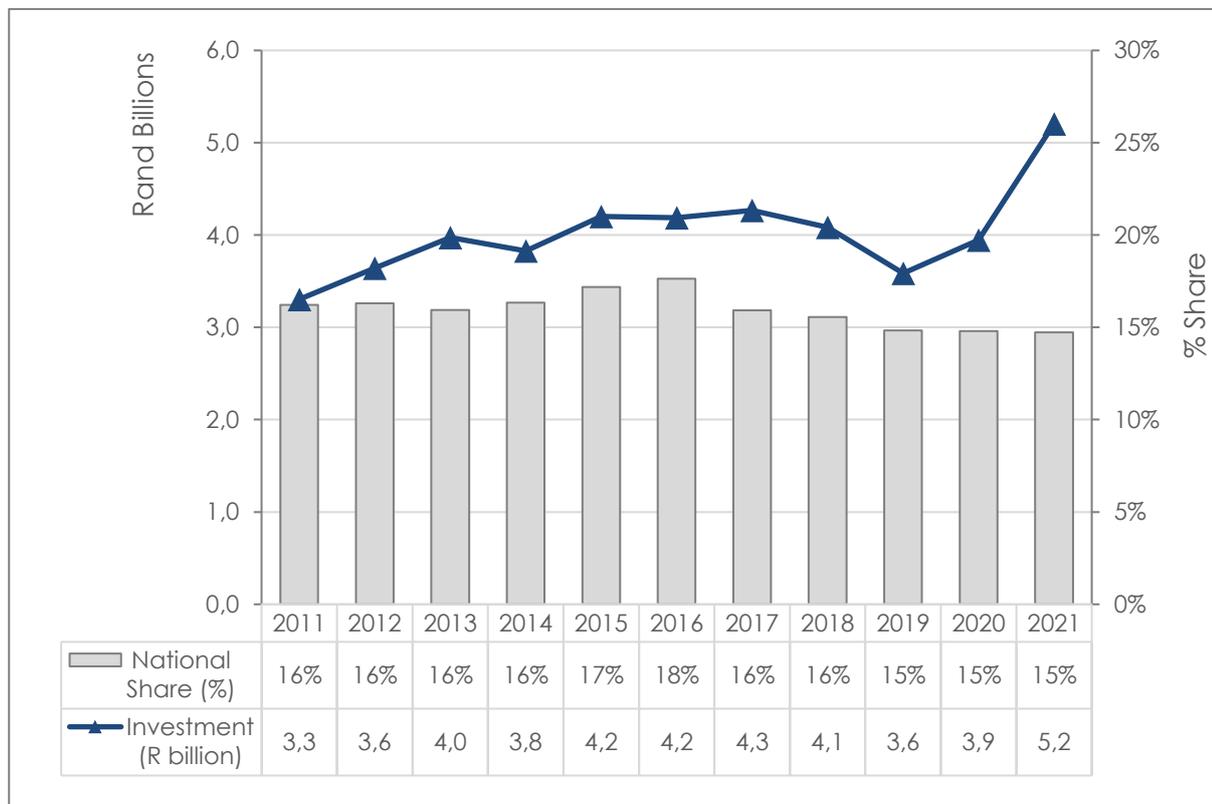


Figure 8.1: Real Investment (GFCF) in WC Agriculture (2015 prices), 2010-2020

Source: (Quantec, 2022)

When investment in the sector is broken down by investment type as in Figure 8.2, there were increases across. The largest relative increase for the year was 133% in information and communication in agriculture. Followed by Machinery and other equipments increasing by 54%.

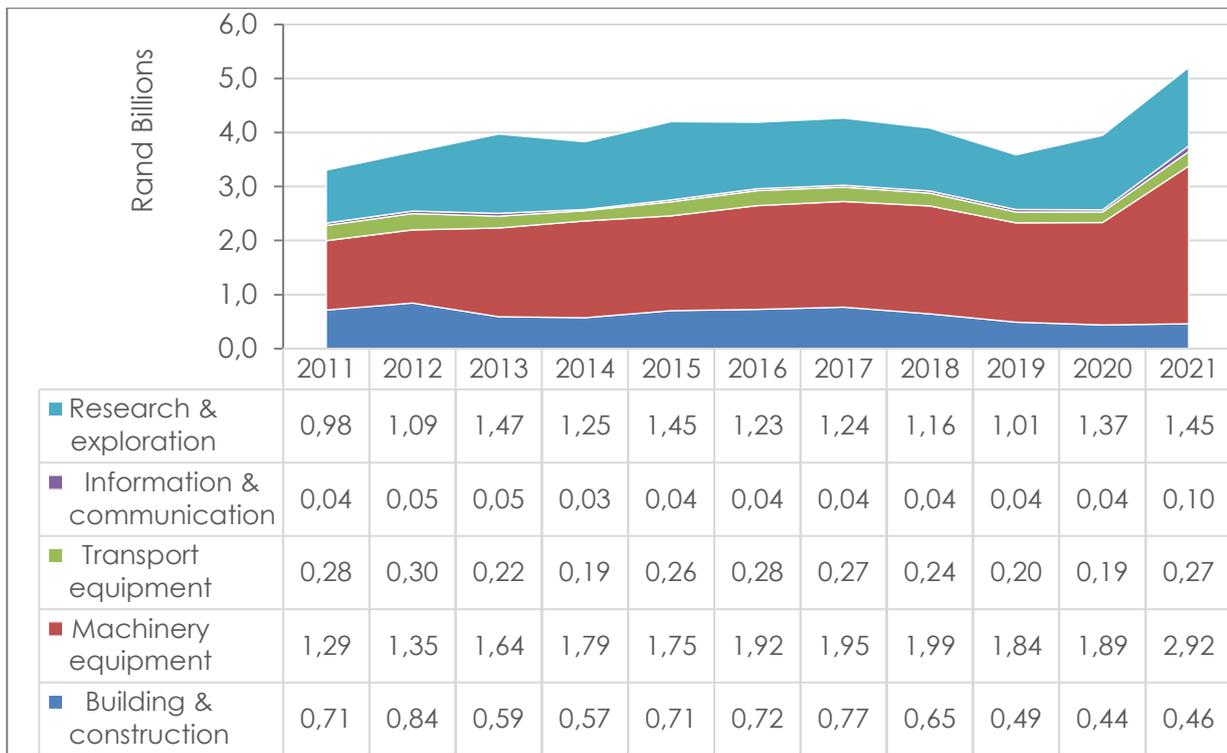


Figure 8.2: Real Investment (GFCF) in WC Agriculture by Nature (2015 prices), 2011-2021

Source: (Quantec, 2022)

The municipal breakdown of agricultural investment in the WC is provided in Table 8.3. The majority of investment spending was in the Cape Winelands and the West Coast, accounting for 58.2% of the provincial total. Overall, the WC agricultural real investment grew at an annual average rate of 4.65% from 2011 to 2021. With noticeable growth in the City of Cape Town and West Coast districts 5.89% and 5.80% real annual growth per annum respectively.

Table 8.3: Geography of Agricultural Investment (GDFI), 2011-2021

	2011		2020		2021		10y Annual Growth
	Rm	Share	Rm	Share	Rm	Share	
City of Cape Town	531	16,1%	709	18,0%	941	18,1%	5,89%
City of Cape Town	531	16,1%	709	18,0%	941	18,1%	5,89%
West Coast	733	22,2%	971	24,6%	1 288	24,8%	5,80%
Matzikama	153	4,6%	231	5,9%	306	5,9%	7,17%
Cederberg	129	3,9%	146	3,7%	192	3,7%	4,04%
Bergrivier	189	5,7%	248	6,3%	330	6,3%	5,70%
Saldanha Bay	41	1,2%	63	1,6%	85	1,6%	7,54%
Swartland	220	6,7%	283	7,2%	375	7,2%	5,48%
Cape Winelands	1 188	36,0%	1 323	33,5%	1 737	33,4%	3,87%
Witzenberg	253	7,7%	296	7,5%	391	7,5%	4,44%
Drakenstein	277	8,4%	320	8,1%	422	8,1%	4,29%
Stellenbosch	181	5,5%	192	4,9%	251	4,8%	3,34%
Breede Valley	285	8,6%	308	7,8%	403	7,8%	3,53%
Langeberg	192	5,8%	206	5,2%	270	5,2%	3,47%
Overberg	387	11,7%	414	10,5%	542	10,4%	3,42%
Theewaterskloof	254	7,7%	271	6,9%	354	6,8%	3,38%
Overstrand	39	1,2%	43	1,1%	56	1,1%	3,73%
Cape Agulhas	36	1,1%	39	1,0%	51	1,0%	3,47%
Swellendam	58	1,8%	62	1,6%	81	1,5%	3,35%
Eden	373	11,3%	420	10,7%	552	10,6%	4,00%
Kannaland	45	1,4%	48	1,2%	63	1,2%	3,46%
Hessequa	77	2,3%	79	2,0%	103	2,0%	3,03%
Mossel Bay	35	1,1%	38	1,0%	50	1,0%	3,57%
George	113	3,4%	132	3,3%	174	3,3%	4,39%
Oudtshoorn	66	2,0%	75	1,9%	99	1,9%	4,23%
Bitou	18	0,5%	23	0,6%	31	0,6%	5,53%
Knysna	19	0,6%	24	0,6%	32	0,6%	4,98%
Central Karoo	92	2,8%	109	2,8%	144	2,8%	4,62%
Laingsburg	21	0,6%	24	0,6%	31	0,6%	4,31%
Prince Albert	20	0,6%	24	0,6%	32	0,6%	5,00%
Beaufort West	51	1,6%	61	1,5%	81	1,5%	4,60%
Western Cape	3 304	100%	3 946	100%	5 204	100%	4,65%

Source: (Quantec, 2022)

Real investment in the WC's FBT sector has increased by 7% in 2021 Figure 8.4. However, at the national level, the province's share contribution remained at a 20% mark in 2021.

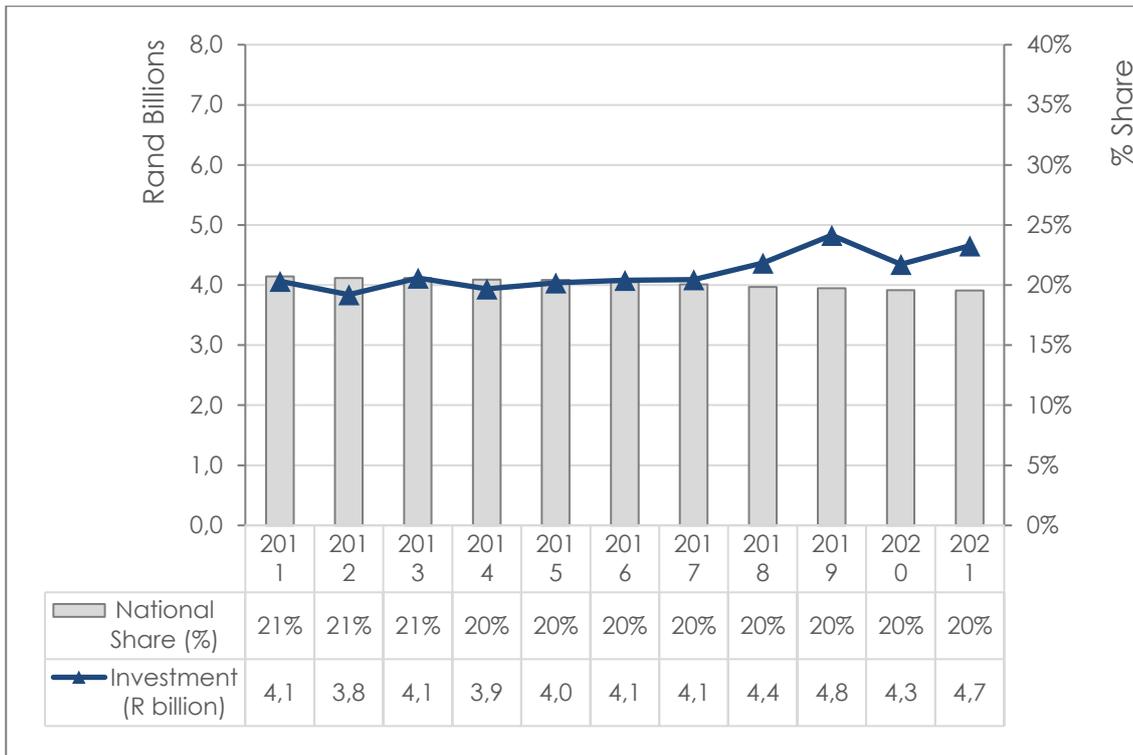


Figure 8.4: Investment (GFCF) in Western Cape FBT and National Share, 2011-2021
 Source: (Quantec, 2022)

Figure 8.5 illustrates new investment in the FBT sector, and this broken down per investment type. Investment in real terms increased in 2021, with the exception of Building & construction works and Research & exploration which decreased by 2% and 3% respectively.

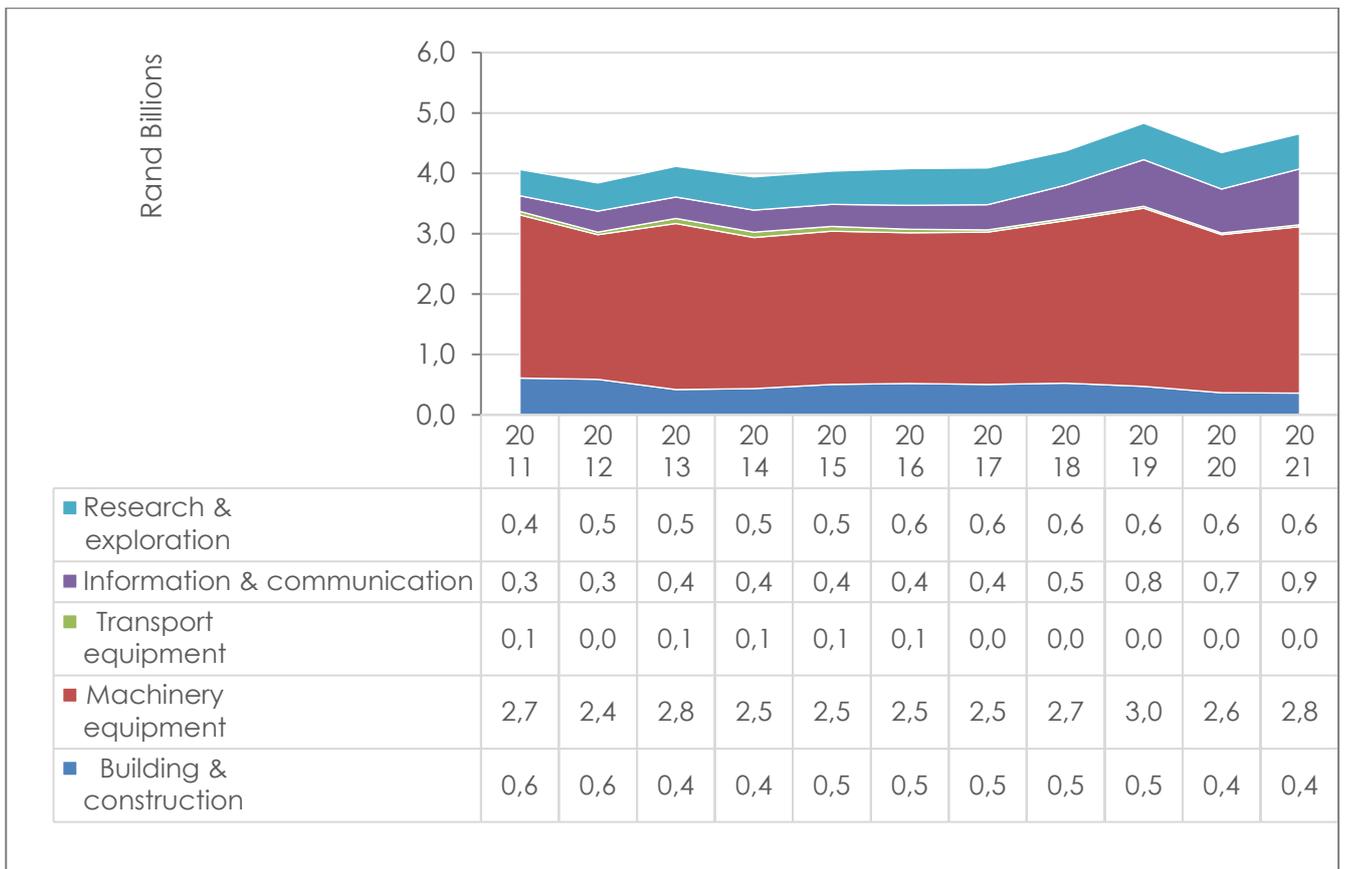


Figure 8.5: Investment (GFCF) in Western Cape FBT by Nature, 2011-2021

Source: (Quantec, 2022)

The geographic breakdown of FBT investment in the WC in Table 8.6 is in line with the distribution of products with a strong concentration in the City of Cape Town. Over the past decade the annual average growth rate in five of six districts of the WC was positive except the Cape Winelands.

Table 8.6: Geography of FBT Investment (GDFI), 2011-2021

	2011		2020		2021		10y Annual Growth
	Rm	Share	Rm	Share	Rm	Share	
City of Cape Town	2 249	55,4%	2 650	61,0%	2 864	61,5%	2,45%
City of Cape Town	2 249	55,4%	2 650	61,0%	2 864	61,5%	2,45%
West Coast	525	12,9%	627	14,4%	682	14,6%	2,65%
Matzikama	56	1,4%	55	1,3%	59	1,3%	0,46%
Cederberg	54	1,3%	67	1,5%	75	1,6%	3,29%
Bergrivier	76	1,9%	90	2,1%	99	2,1%	2,70%
Saldanha Bay	178	4,4%	203	4,7%	219	4,7%	2,08%
Swartland	160	3,9%	210	4,8%	230	4,9%	3,68%
Cape Winelands	889	21,9%	630	14,5%	638	13,7%	-3,26%
Witzenberg	93	2,3%	88	2,0%	94	2,0%	0,05%
Drakenstein	309	7,6%	204	4,7%	204	4,4%	-4,09%
Stellenbosch	244	6,0%	156	3,6%	155	3,3%	-4,42%
Breede Valley	111	2,7%	97	2,2%	101	2,2%	-0,86%
Langeberg	133	3,3%	85	2,0%	84	1,8%	-4,42%
Overberg	119	2,9%	147	3,4%	161	3,5%	3,05%
Theewaterskloof	51	1,3%	63	1,5%	70	1,5%	3,06%
Overstrand	44	1,1%	49	1,1%	52	1,1%	1,86%
Cape Agulhas	13	0,3%	19	0,4%	21	0,4%	5,00%
Swellendam	11	0,3%	16	0,4%	18	0,4%	4,93%
Eden	274	6,7%	284	6,5%	303	6,5%	1,00%
Kannaland	21	0,5%	14	0,3%	14	0,3%	-3,90%
Hessequa	18	0,4%	23	0,5%	25	0,5%	3,25%
Mossel Bay	50	1,2%	46	1,1%	48	1,0%	-0,27%
George	116	2,9%	128	2,9%	137	3,0%	1,67%
Oudtshoorn	45	1,1%	44	1,0%	47	1,0%	0,38%
Bitou	7	0,2%	9	0,2%	10	0,2%	2,65%
Knysna	17	0,4%	20	0,5%	22	0,5%	2,75%
Central Karoo	6	0,2%	7	0,2%	7	0,1%	1,14%
Laingsburg	0	0,0%	0	0,0%	0	0,0%	-1,34%
Prince Albert	2	0,0%	2	0,0%	2	0,0%	0,56%
Beaufort West	4	0,1%	5	0,1%	5	0,1%	1,43%
Western Cape	4 062	100%	4 344	100%	4 655	100%	1,37%

Source: (Quantec, 2022)

Several other industries are not exclusively agri processing but have elements that would be considered agri processing due to involving the transformation of agricultural products. In 2021, there were increases in real investments mainly in textiles (9.67%) and paper (3.01%) Figure 8.7.

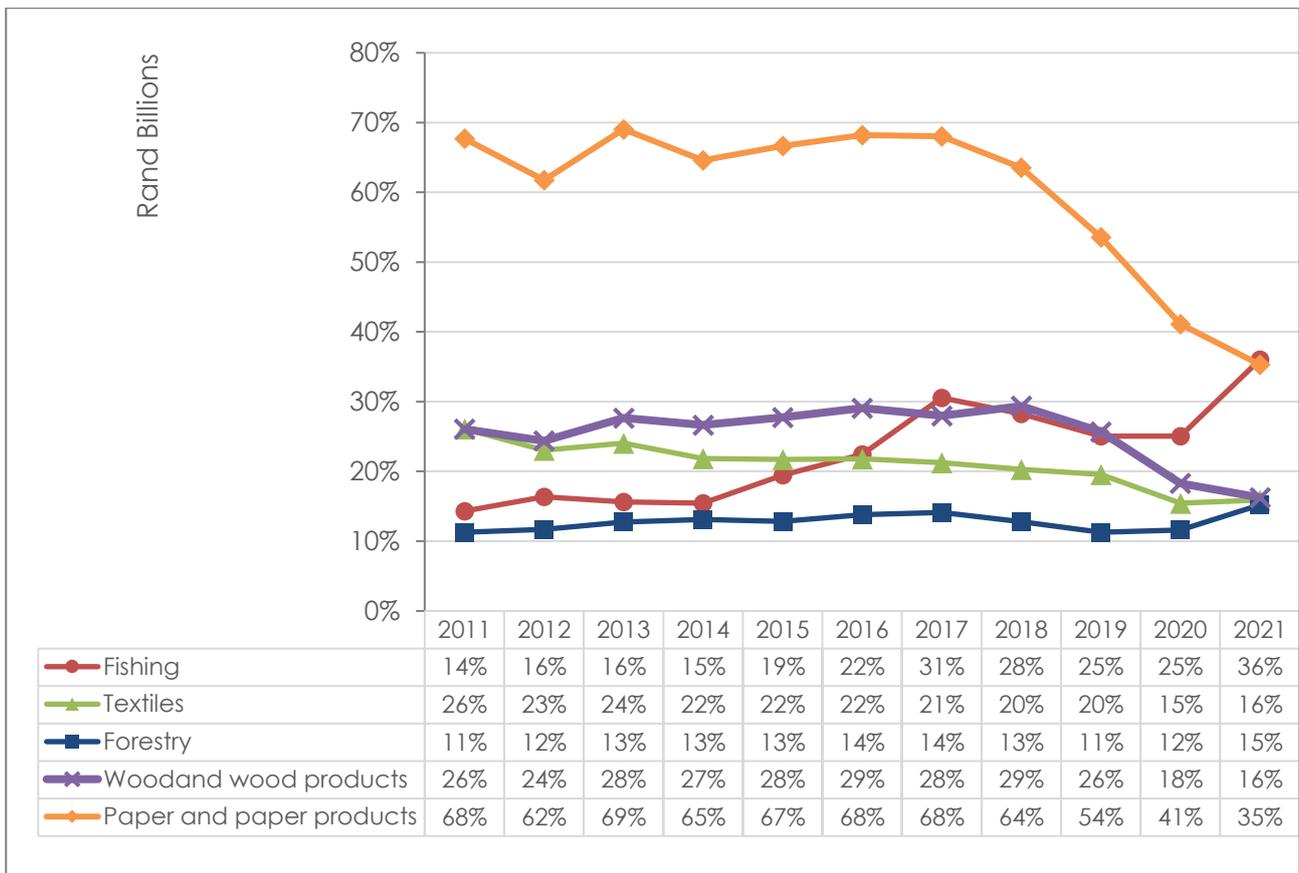


Figure 8.7: Investment (GFCF) in WC Sectors with Connections to Agriculture, 2011-2021

Source: (Quantec, 2022)

Summary points

- In real terms investment in the WC agricultural industry increased by 32% reaching R5.2 billion in 2021 which is a 15% share in national agricultural investment.
- In WC majority of the investment in agriculture was in the Cape Winelands and the West Coast, which combined account for 58.2% of the provincial total.

9. AGRICULTURAL INFRASTRUCTURE

Production infrastructure is concentrated in different areas based on agricultural production in the region. Looking at the breakdown of infrastructure by municipality in Table 9.1, it is clear that the Cape Winelands district is particularly well endowed in terms of infrastructure with the highest number of chicken batteries, homesteads, nurseries, piggeries and tunnels of all the districts.

Table 9.1: WC Agricultural Production Infrastructure, 2017

	City of CT	West Coast	Cape Winelands	Overberg	Eden	Central Karoo	WC Total
Airfields	7	39	21	20	16	26	129
Chicken Batteries	82	7	143	41	5	0	278
Dams*	1 154	3 159	4 494	4 857	6 215	2 613	22 492
Feedlots	4	7	5	11	18	6	51
Homesteads	1 201	9 191	13 958	6 315	3 697	3 159	37 521
Nurseries	30	17	64	26	8	2	147
Piggeries	8	18	31	7	3	1	68
Shade Netting	42	673	388	207	62	5	1 376
Tunnels	25	73	93	36	3	1	231

* 2013 data used

Source: (WCDoA, 2018)

The West Coast is also well endowed with agricultural production infrastructure, particularly with regards to airfields and shade netting where the district's share in the provincial total stands at 30% and 49% respectively. Eden has the highest number of dams, largely due to the high number of dams in Hessequa and George municipalities, and the highest amount of feedlots.

Moving away from the infrastructure necessary for production to look at facilities where different agricultural products can be processed, Table 9.2 shows the number of various processing facilities at the district level. Again different facilities are concentrated in different areas depending on what is produced locally, highlighting how the development of agri processing facilities can aid in the development of local producers.

Once again, the Cape Winelands is very well set up with the highest number of pack houses, distilleries, fruit packers, cool chain facilities, olive cellars and unsurprisingly given the district name, wine cellars. The cellars have a particularly high concentration in the Cape Winelands which is home to 66% of the province's wine cellars and 66% of the province's

olive cellars. It should be noted that the facilities with high concentrations in the Cape Winelands are mostly aimed at processing fruit. The highest concentration observed is in terms of tea processing facilities where 96% of all processing facilities are in the West Coast District. This is the only product with the highest concentration in the West Coast District. The City of Cape Town boasts the highest number of breweries (61%) and millers (42%). The Overberg has the highest number of silos (37%), although only slightly higher than Eden (30%). Eden itself has the highest number of crush pens/dip tanks (41%) and dairies (50%). The Central Karoo has the most abattoirs (25%), but again only slightly higher than Eden (20%).

Table 9.2: WC Agricultural Processing Infrastructure (number), 2017

	City of CT	West Coast	Cape Winelands	Overberg	Eden	Central Karoo	WC Total
Abattoirs	7	10	9	8	12	15	61
Crush pens/Dip tanks	65	426	162	372	975	381	2381
Dairies	23	35	41	118	215	0	432
Pack houses	5	135	294	176	39	34	683
Silos	5	15	8	34	28	2	92
Brewery	31	2	15	2	1	0	51
Distillery	2	0	5	1	1	0	9
Fruit Packers	3	37	115	36	1	1	193
Cool Chain	36	32	66	36	1	1	172
Millers	10	3	7	2	2	0	24
Olive Cellar	6	3	42	6	2	5	64
Wine Cellar	54	24	309	64	13	3	467
Tea Processing	0	72	1	1	1	0	75
Other Facilities	94	32	37	36	19	4	222

Source: (WCDoA, 2018)

Summary points

- The Cape Winelands District is well endowed with agricultural production infrastructure when compared to other districts in the WC. It has the highest number of chicken batteries, homesteads, nurseries, piggeries and tunnels of all the districts.
- The Cape Winelands District is also the best endowed in terms of processing infrastructure with the highest of pack-houses, distilleries, fruit packers, cool chain facilities, olive cellars and unsurprisingly given the district name, wine cellars.

10. DOMESTIC MARKET

The number of households in the WC has increased as the population has expanded (see Section 1: Overview of the Western Cape). Figure 10.1 shows the number of households and average household size between 2011 and 2021 in the WC. In 2021, there was a recorded 2 million households in the province. The increase of only 1.5 million households in 2011 implies that each year on average an additional 359 218 households are added to the province. Between 2020 and 2021 there were an additional 59 194 households added. As the number of households has been increasing in the province, there has been a slight decline in the average household size from 2011 to 2019, but in 2020 there was a light increase, then decline again in 2021.

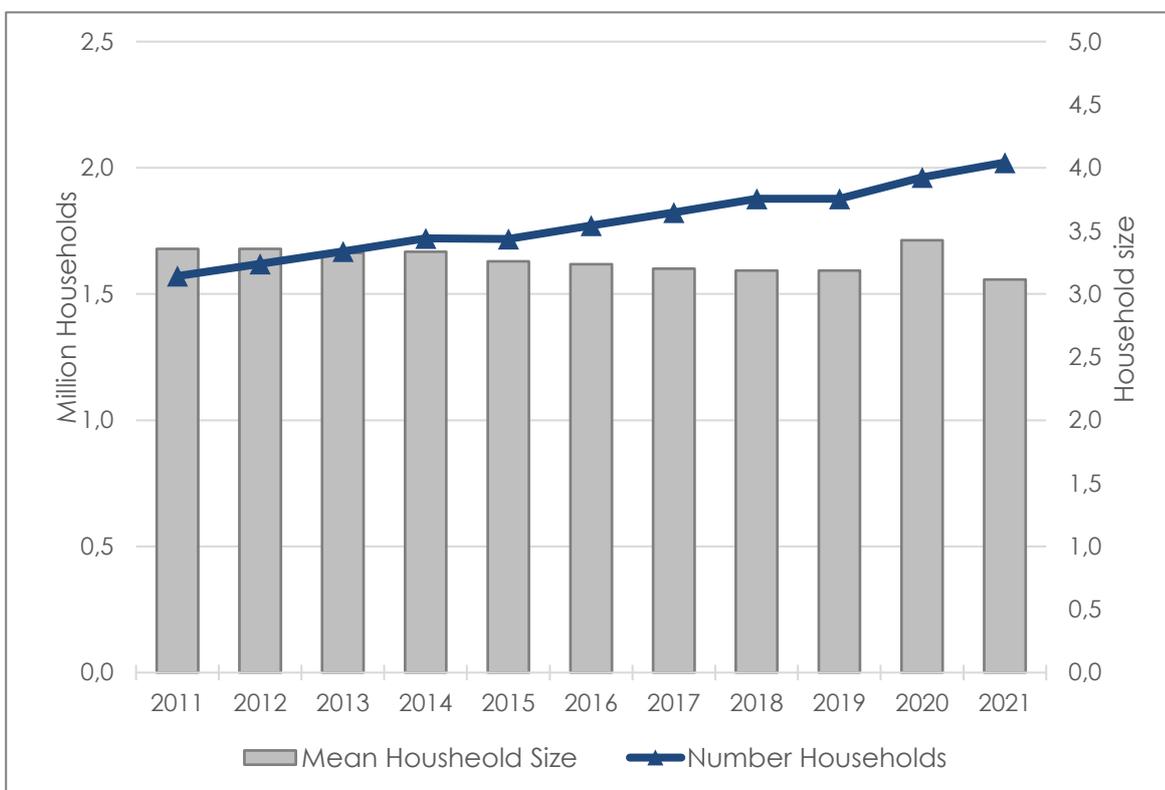


Figure 10.1: Number of Households and Average Household Size, 2011-2021

Source (Stats SA, 2021)

Figure 10.2 shows the number of households by their expenditure bracket for 2011, 2016 and 2021 in nominal terms³. However, the trend shows a slight increase in monthly expenditure for households classified under monthly expenditure categories (1-5), these are likely low income households who can't spend more due to budgetary constraints.

³ Due to the data only being provided in brackets, no conversion could be made with regards to inflation so values reflect nominal monetary values and thus some upward movement is expected.

However, it can be observed from the figure that majority of households with monthly expenditures greater than R5 000 have increased significantly over time. The 2021 food security global index has identified food affordability as one of major limiting factors hampering food security in South Africa. From a food security perspective, the proportion of the WC population experiencing self-reported hunger at least sometimes had been on the rise from 2010 until 2014/2015 when it appeared to peak and then begin to decline (Partridge, et al., 2019). However, as indicated in Figure 9.3, the population experiencing adult or child hunger either “sometimes”, “often” or “always”, has slightly declined in 2021 whereas child hunger increased. Adult hunger decreased from 16.98% in 2020 to 13.99% in 2021, but child hunger increased in the same period from 12.09% to 14.44% respectively.

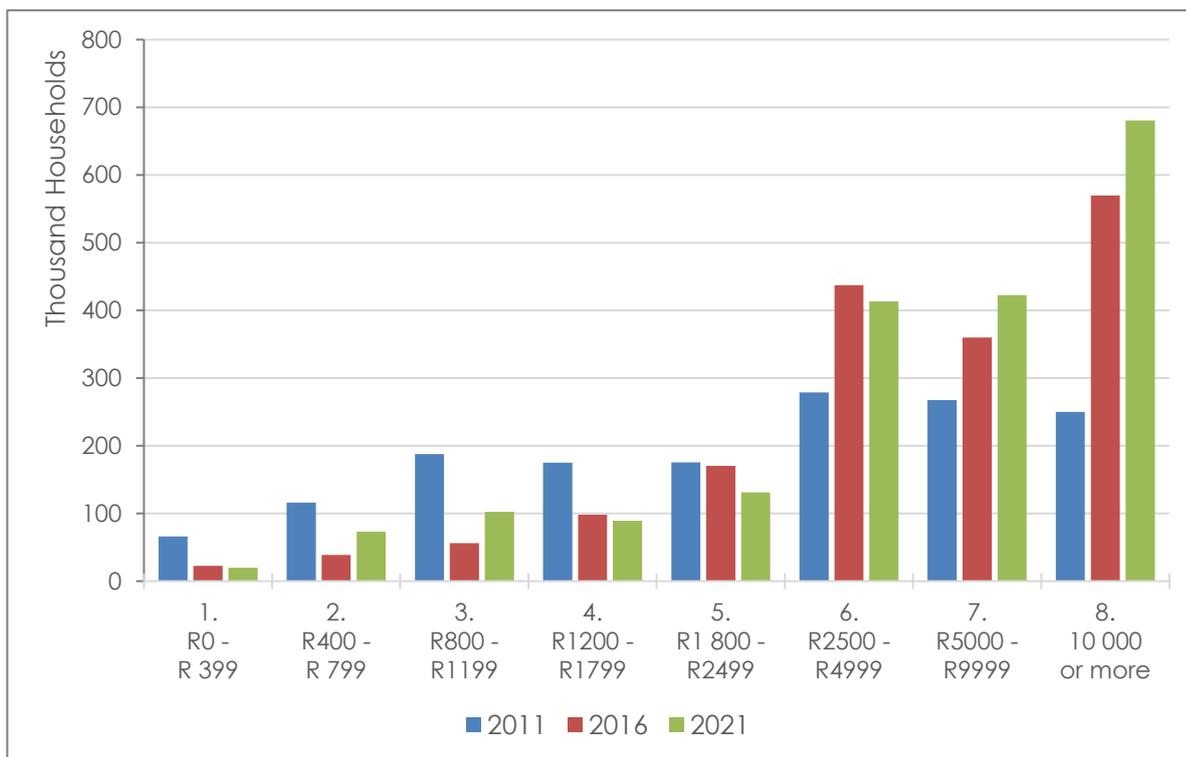


Figure 10.2: Monthly Household Expenditure, 2011, 2016 & 2021

Source (Stats SA, 2021)

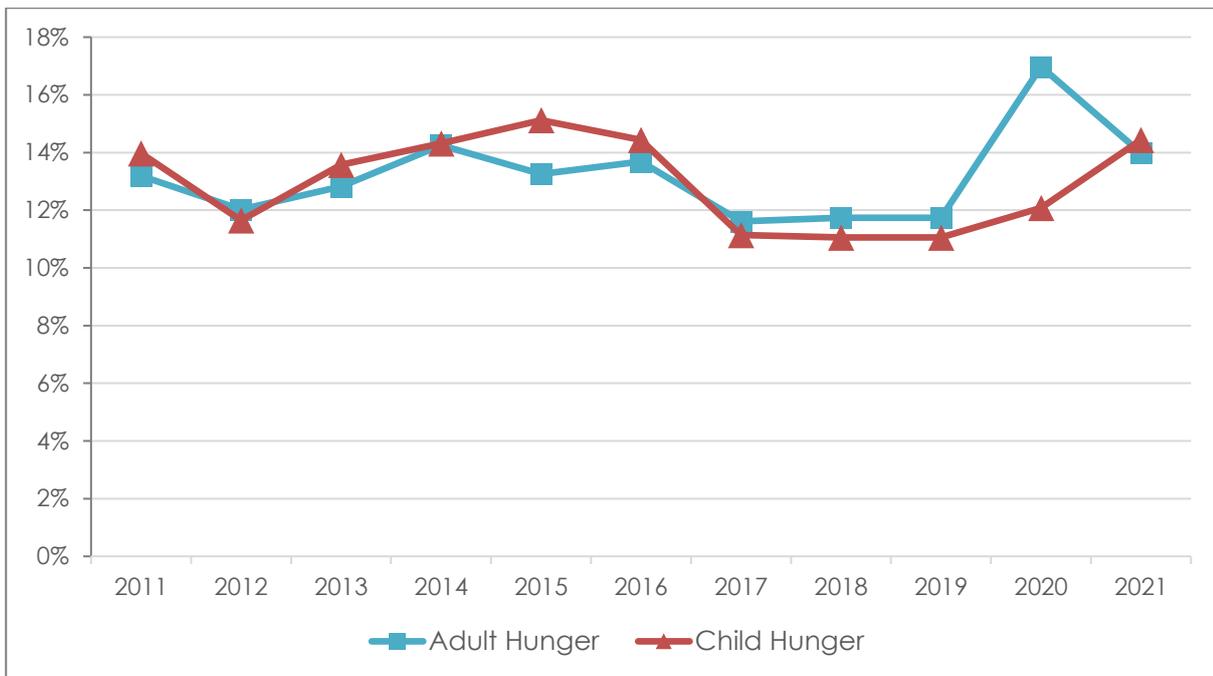


Figure 10.3: Prevalence of Hunger in the Western Cape, 2011-2021

Source (Stats SA, 2021)

The WC inflation has moved along with national inflation over the past decade, as evident from the two overlaid series in Figure 10.4. There has been a slight divergence since 2016 with WC inflation exceeding national inflation for the past four years. In 2021, national inflation stood at 4.6 %, whereas inflation for the WC stood at 4.6%. The national and provincial headline inflation showed an increasing trend from 2020 and 2021. Inflation for food and non-alcoholic beverages in 2021 was at 6%, significantly higher than both the national and provincial headline inflation reported below (see Figure 10.5). The average price of alcoholic beverages increased by 5.4% in 2021, higher than headline inflation and less than the 3.8% recorded in 2020.

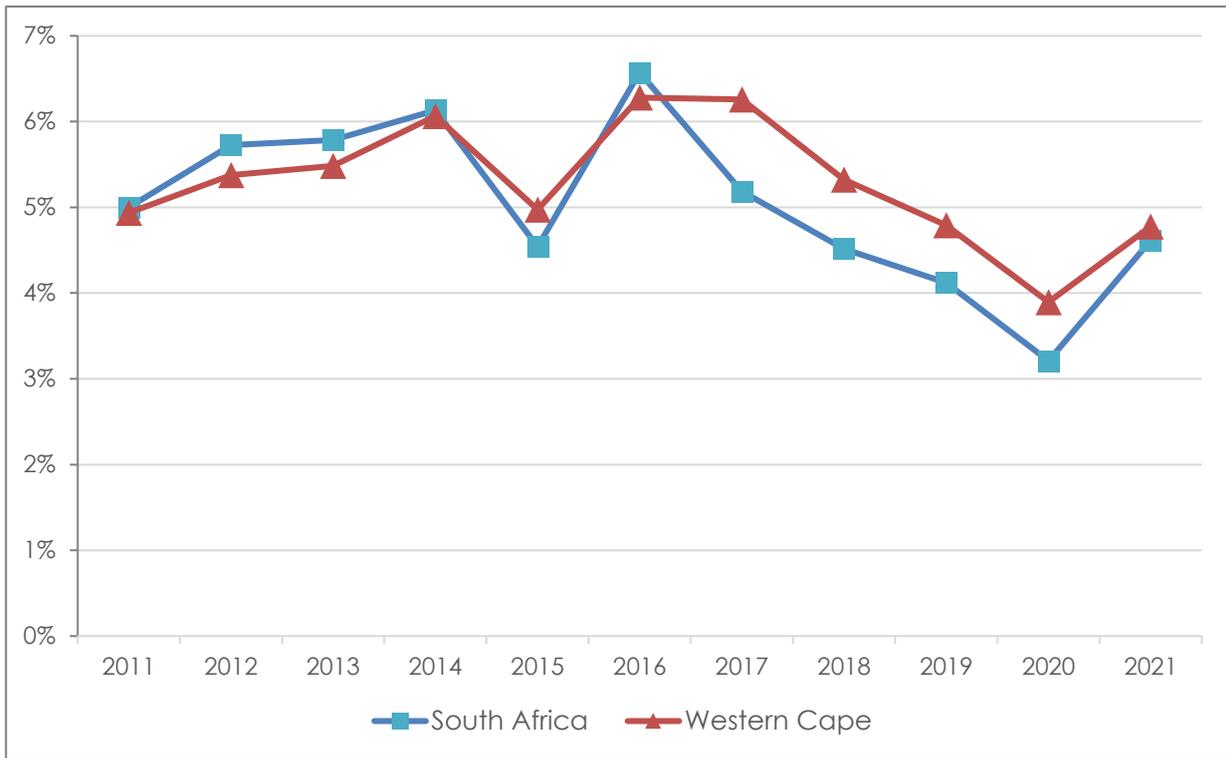


Figure 10.4: National and Provincial Inflation (CPI), 2011-2021

Source: (Stats SA, 2021c)

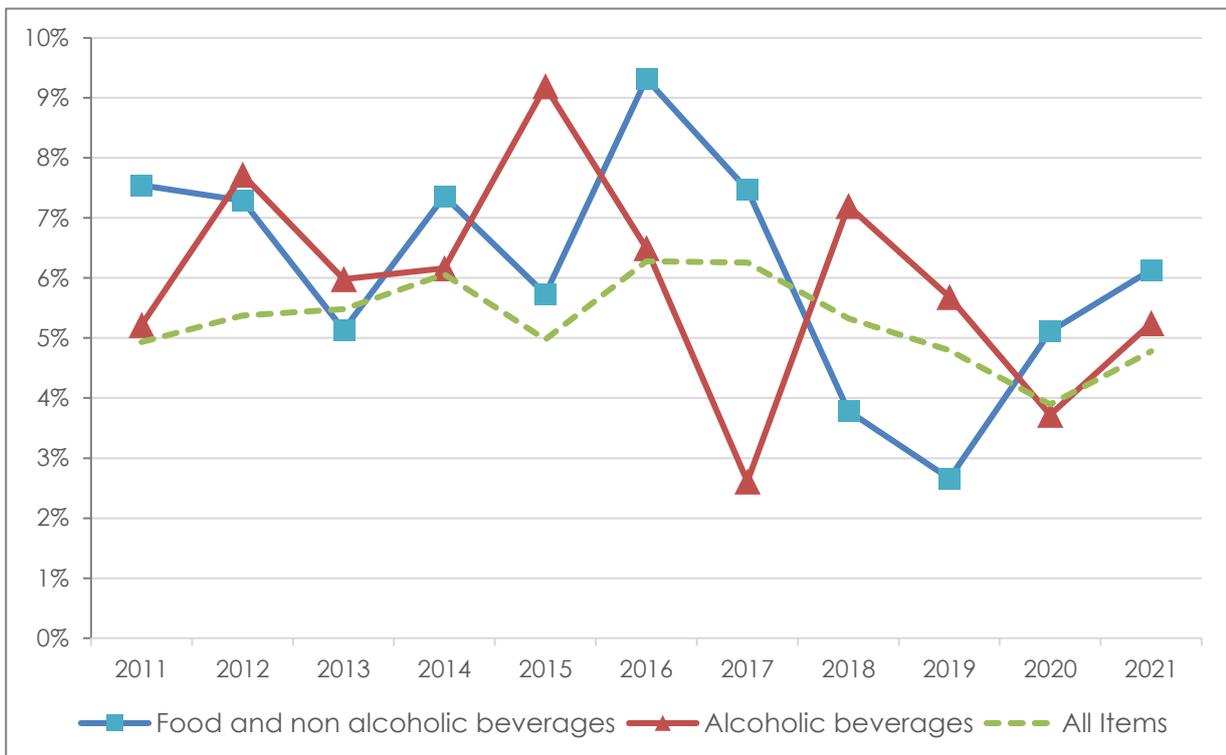


Figure 10.5: WC Food and Beverage Inflation (CPI), 2011-2021

Source: (Stats SA, 2021c)

Observing the market price performance of the selected agricultural products, Table 10.6 reveals a significant amount of volatility in prices with large increases and decreases in prices common at the commodity level. The prices provide average costs, calculated using weekly price data with linear interpolation. In 2021, there were particularly large average price increases for naartjies (65.1%), wheat (winter) 56, 9% and wheat (spring) 57% among others. A price drop in 2021 was observed for onions and peaches 15% and 10% respectively.

Table 10.6: Market Price Performance of Select Agricultural Products, 2017-2021

	Annual % Change in Average Prices					5 Year Average
	2017	2018	2019	2020	2021	
WC CPI: Headline	6,3%	5,3%	4,8%	3,9%	4,8%	5,0%
WC CPI: Food & Beverages	7,5%	3,8%	2,7%	5,1%	6,1%	5,0%
Beef: Class A2/A3	4,3%	10,4%	20,6%	1,7%	12,4%	9,7%
Beef: Class AB2/AB3	6,6%	12,1%	22,8%	2,2%	13,3%	11,2%
Beef: Class B2/B3	7,6%	11,8%	24,2%	3,4%	14,9%	12,2%
Beef: Class C2/C3	11,0%	10,7%	28,9%	3,7%	10,5%	12,7%
Mutton: Class A2/A3	8,0%	9,5%	22,4%	1,9%	18,7%	11,8%
Mutton: Class AB2/AB3	7,4%	9,2%	22,3%	3,1%	20,5%	12,3%
Mutton: Class B2/B3	8,2%	11,9%	21,4%	10,3%	16,1%	13,5%
Mutton: Class C2/C3	10,3%	9,1%	22,9%	5,3%	21,4%	13,6%
Pork: Bacon	5,9%	6,7%	13,4%	-12,3%	16,8%	5,6%
Pork: Pork	10,4%	3,1%	11,4%	-7,6%	15,0%	6,2%
Pork: Sausage	10,3%	-6,1%	24,2%	-8,7%	-	-
Pork: Average	6,3%	6,8%	13,0%	-11,6%	-	-
Poultry: Frozen Class A	4,2%	0,3%	18,1%	0,0%	9,6%	6,3%
Poultry: Fresh	15,8%	0,8%	16,0%	0,2%	6,2%	7,6%
Wheat: Kansas City (Winter)	-9,2%	-0,8%	-9,7%	13,1%	56,9%	7,7%
Wheat: Minneapolis (Spring)	-9,2%	-0,8%	-9,7%	12,8%	57,3%	7,6%
Wheat: Safex	3,1%	10,1%	-5,1%	-4,7%	34,3%	6,6%
Lemons	0,2%	-5,7%	-2,4%	-5,7%	-6,2%	-4,0%
Oranges	-20,5%	66,4%	10,0%	-17,9%	38,0%	10,5%
Naartjies	12,6%	3,1%	1,9%	-19,0%	65,1%	9,6%
Apples	-9,6%	7,5%	1,2%	18,8%	-2,8%	2,6%
Pears	11,8%	2,9%	-7,9%	11,2%	13,1%	5,9%
Plums	-1,9%	70,6%	-26,7%	-3,6%	22,3%	7,7%
Peaches	28,9%	21,0%	-6,1%	16,0%	-10,1%	8,8%
Strawberries	45,9%	21,9%	29,4%	-9,9%	15,9%	19,2%
Table Grapes	86,6%	33,8%	12,6%	-21,3%	5,9%	18,6%
Onions	1475,1%	94,3%	-37,3%	30,4%	-15,9%	83,9%
Potatoes	-19,8%	73,2%	-26,5%	7,3%	31,8%	7,6%
Tomatoes	3,5%	-3,2%	-0,9%	11,4%	25,8%	6,8%

Source: (WCDoA, 2021c)

Summary points

- . In 2021, there was a recorded 2 million households in the province. The increase from only 1.5 million households in 2011 implies that each year on average an additional 359 218 households are added to the province.
- Between 2020 and 2021 there were an additional 59 194 households added. The number of households in the WC has increased as the population has expanded.

11. AGRI TOURISM

Table 10.1 shows the geographic spread of agritourism activities in the WC. For more general outdoor activities there is quite an even spread across the districts. These activities would include birding, camping, ecotourism, fishing, hiking and mountain biking. The exception is the City of Cape Town, where aside from ecotourism, there are fewer of these general activities.

Table 11.1: WC Agri Tourism Enterprises (number), 2017

	City of Cape Town	West Coast	Cape Winelands	Overberg	Eden	Central Karoo	WC Total
4x4 Facilities	5	32	19	15	28	48	147
Accommodation	51	162	443	221	145	129	1151
Birding	4	49	44	38	26	49	210
Breweries	17	7	26	8	0	1	59
Camping	11	66	42	30	29	34	212
Cellars & Wine Shops	16	5	109	20	4	3	157
Conference & Functions	53	42	256	82	27	22	482
Ecotourism	24	38	47	43	41	53	246
Farm Market	9	7	21	15	3	1	56
Farm Stall	4	19	54	23	23	12	135
Fishing	10	34	50	45	29	23	191
Hiking	26	90	108	121	55	72	472
Horse Riding	8	10	55	24	17	22	136
Mountain Bike	13	49	89	89	45	55	340
Ostrich	2	0	4	0	3	0	9
Picnics	20	37	126	48	31	73	335
Quad Bike	2	10	13	13	8	17	63
Restaurant	53	42	256	82	27	22	482

Source: (WCDoA, 2018)

The Cape Winelands has the highest district share in terms of numbers for 13 out of the 18 activities. The highest concentrations were for cellars and wine shops (69%), conference functions (53%) and restaurants (53%). The Central Karoo has the highest for four of the five remaining activities with a particularly high concentration in terms of 4x4 facilities (33%). The only activity where the highest concentration is not Cape Winelands or Central Karoo is

camping where the West Coast has the highest share (31%). It should be noted, however, that the West Coast also has the joint highest number of birding facilities with the Central Karoo (each 23%) and that the Overberg has the joint highest mountain bike trails with the Cape Winelands (26%).

Summary points

- The Cape Winelands generally appears to have the highest amount of agri-tourism activities, especially concerning cellars and wine shops, conference functions and restaurants.
- The West Coast is popular for camping and birding, the Overberg is popular for mountain biking.

12. WATER

This section of the report provides an update on major Water Catchment Management Areas (CMAs) in the WC, the status of dam levels, water allocations, raw water tariffs and inspection status of various dams in the province. There are nine Water Catchment Management Areas (CMAs) in the country, and the four located in the WC Province are the Gouritz, Breede, Berg and Olifants Water Management Areas (WMA's). These are shown in Figure 12.1, along with the freshwater bodies inland. The Breede and Gouritz (Breede-Gouritz) WMAs have a full total supply capacity of 1 318.07 million cubic metres (Mm³) and the Berg-Olifants WMAs another 43.95 Mm³ (DWS, 2022). Fresh water bodies (e.g. rivers, wetlands etc.) are an important part of the agroecosystems.

The spread of invasive alien plant species (IAPs) is one major environmental challenges negatively affecting water bodies. The increased spread of IAPs alters natural ecosystems processes through the displacement of native vegetation. All efforts to clear IAPs by various government departments and non-governmental organisations are critical in protecting fresh water bodies and reclaiming land for productive use (e.g. agriculture). Water is an indispensable resource and drives economic growth and supports healthy ecosystems (World Bank, 2021; Adams, et al., 2018).

A large amount of water in the WC is supplied through the Western Cape Water Supply System (WCWSS). This infrastructure is an “integrated and collectively managed system of dams, pumps stations, pipelines and tunnels” (City of Cape Town, 2018, p. 15). The WCWSS also transfers water between dams and catchment systems. Regions supplied through the WCWSS include the City of Cape Town, Overberg, Boland, West Coast and Swartland. Domestic and industrial use accounts for 72% (390m³ million) of annual water allocations from the WCWSS, 89% of which is for the City of Cape Town (347m³ million).

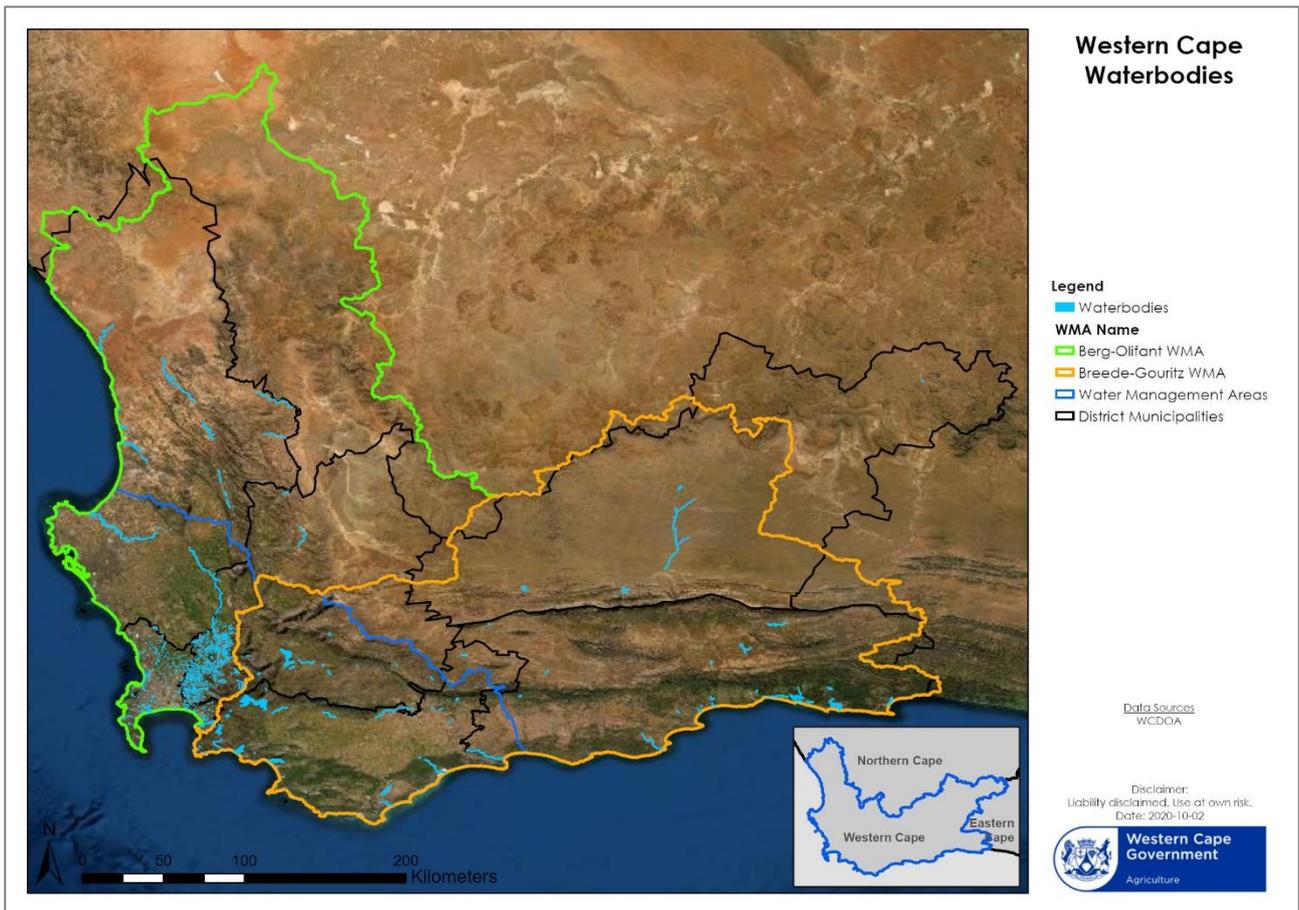


Figure 12.1: WC Water Management Areas (WMA) and Fresh Water Bodies

Source: (WCDoA, 2020a)

The WCWSS dam's water levels, based on the major dam levels, shown in Figure 12.2, show a significant increase from a low 54% to 99% in November 2021 (City of Cape Town, 2021). This will boost agricultural production and accelerate the process of economic recovery from the impact of the drought and Covid-19.

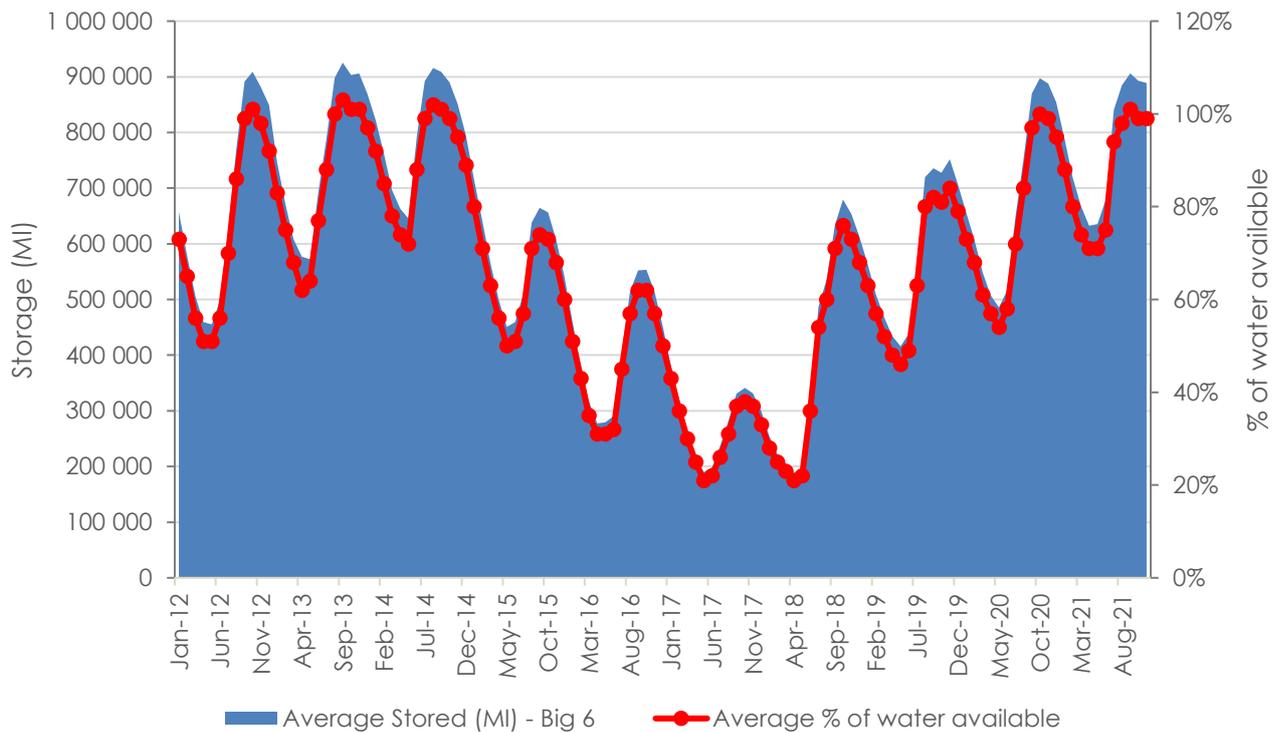


Figure 12.2: Percentage of WCWSS Major Dams' Bulk-Water Storage Levels, 2012-2021

Source: (City of Cape Town, 2021)

From a total of 186 m³ million allocated to agriculture, 31% supplies Riviersonderend, with a further 29% of the allocations going to the Upper Berg Irrigation Board and 14% to the Wynland Water Use Authority. The Upper Berg River Pumped Schemes account for a further 11%, as does the Lower Berg Irrigation Board. A detailed account of water allocations for agriculture in the WCWSS is provided in Table 12.3.

Table 12.3: Water Allocations for Agriculture in the WCWSS, 2019

System	Allocation (million m ³ /a)	Share
Riviersonderend (Theewaterskloof Dam)	61.7	31%
Zonderend IB	36.1	
Vyeboom IB	13.2	
Individual Irrigators	12.4	
Wynland WUA	26.2	14%
Stellenbosch IB	11.9	
Helderberg IB	11.6	
Lower Eerste River IB	2.1	
Industrial use	0.7	
Banhoek Tunnel	1.8	1%

Upper Berg Irrigation Board	54.4	29%
Sub-District 1	14.3	
Sub-District 2	21.5	
Sub-District 2	0.6	
Sub-District 3	18.0	
Upper Berg River Pumped Schemes	21.1	11%
Suid-Agter Paarl	3.5	
Simondium Pipeline	1.0	
Simonsberg	0.5	
Perdeberg	6.6	
Noord-Agter Paarl	3.6	
Noord-Agter Paarl	1.3	
Groenberg Ward 1 - Pipeline	1.1	
Groenberg Ward 2 - Pipeline	0.6	
Riebeeck Kasteel *	1.5	
Riebeek West Ward 1	0.7	
Riebeek West Ward 2	0.8	
Lower Berg Irrigation Board	21.3	11%
Lower Berg Irrigation Board	11.0	
Other licences	10.3	
WCWSS Total Allocation	186.4	100%

Source: (DWS, 2019)

Figure 12.4, indicates the WC and national average raw water tariffs charged for domestic & industry, irrigation and forestry for the period 2017 to 2012 (DWS, 2022). The water tariffs expressed in cents per cubic metre (c/m³) indicate the tariffs CMAs agencies charge Water Boards sourcing water from the Berg-Olifants and Breede-Gouritz. On average, national water tariffs have marginally increased over the period under review for domestic & industry; irrigation and forestry. However, it can also be observed from the figure that water tariff charged by the CMAs in the province are mostly higher than national average. According to the DWS (2022), reducing information asymmetry in the water markets is essential to address concerns related to affordability, equity and fairness in raw water pricing. It is also important to ensure the sustainability of Catchment Management Areas (CMAs).

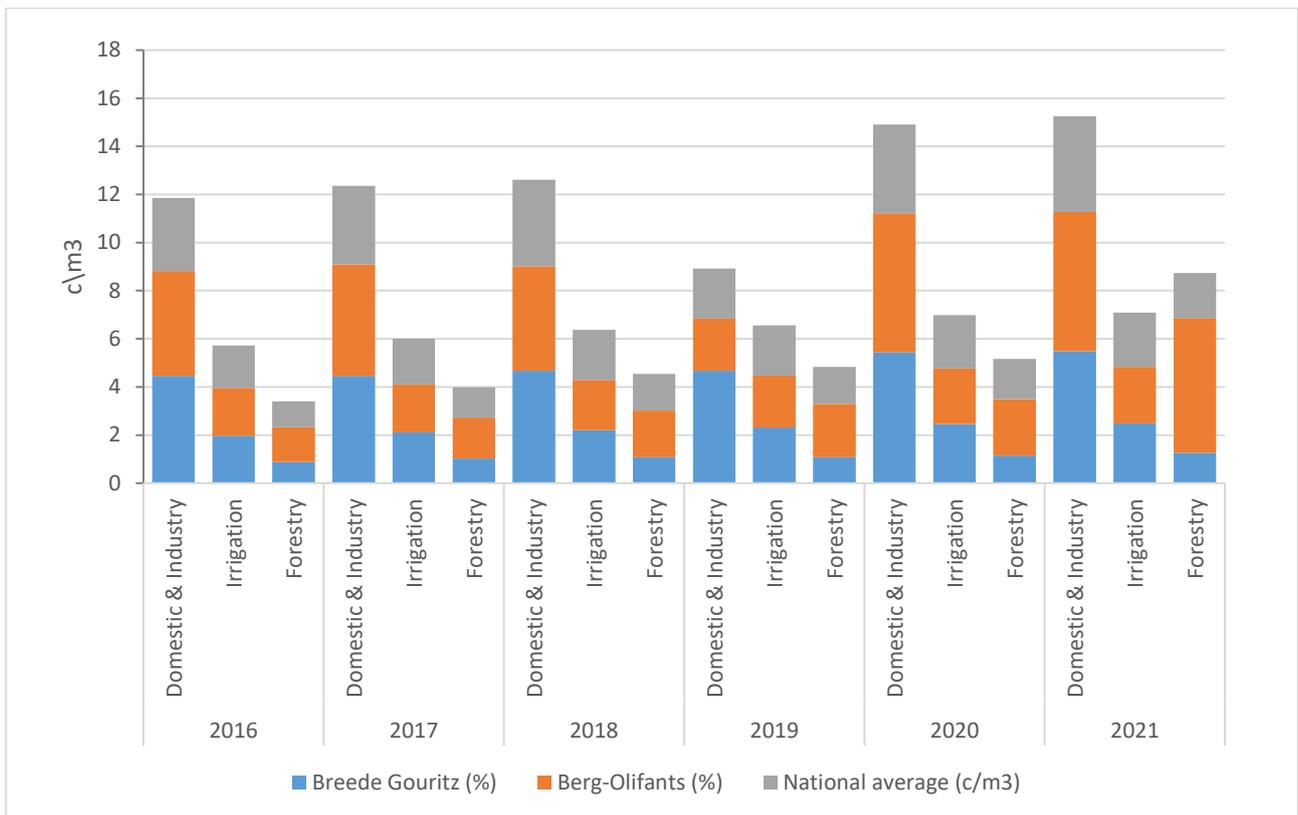


Figure 12.4: Western Cape Raw Water Tariffs and National average (2017-2021)

Source: (DWS, 2022)

The Breede Gouritz WMA dam inspection status is based on 187 small dams, 235 medium-sized dams, 34 large dams and 9 unclassified dams. The results displayed in Figure 12.5, show that 42% of the small dams were not inspected within 10 years. The rest of the dams (58%) were inspected within the last or previous 5 years. In the case of medium dams, only 32% of them were not inspected within 10 years, and the remaining 68% were inspected within the last or previous 5 years. The Berg-Olifants WMA dam inspection status is based on 225 small dams, 213 medium dams and 2 unclassified dams. It shows that 57% of the small dams and 40% of the medium dams have not been inspected within ten years. The remaining 43% of the small dams and 60% of the medium dams were inspected within the last or previous 5 years. In the case of large dams, 75% were inspected within the last 5 years and 25% in the previous 5 years.



Figure 12.5: Status of Dam Inspection in the Breede-Gouritz and Berg-Olifants WMAs

Source: (DWS, 2019)

The WC dam water levels have significantly improved since the 2018 drought due to good rains in the following periods. Alternatives and opportunities for water supply need to be looked at, current dam infrastructure needs to be maintained and fair water allocations, as well as behavioural changes, need to be implemented. The provincial raw water tariffs are still higher than the national tariffs with small margins.

Summary Points

- The WC dam water levels have significantly improved since 2018 onward until 2021.
- The provincial raw water tariffs are still higher than the national tariffs with small margins.
- The majority of the provincial large and small dams have been inspected in the last five years.

13. SPECIAL FOCUS: TECHNOLOGY IN THE AGRICULTURAL SECTOR

There are various factors driving innovation and technology adoption in the agricultural sector. These include the growing demand for agricultural products due to population growth, and the impact of climate change related events (e.g. shifting rainfall patterns, floods, droughts, high temperatures) that affect agricultural systems. In addition, the increased cost of inputs (e.g. fertilizers, pesticides etc.), unreliable energy supply, and pollution and changing consumer preferences among others. This section presents a brief overview of investment in the agricultural industry and also highlights some of the key technologies identified for the WC agricultural sector.

(a) Investment in agriculture

In the past five years, investment in the Western Cape agricultural sector increased at an annual average growth rate of 4%. Figure 13.1 below shows a break-down of the investment by types. In 2021 a total of R5, 2 billion was invested in the sector, and of that amount Machinery & other equipment contributed 54%, and Research, mineral exploration & biological resources 27%, which combined account 83% to the total WC agricultural investment. Building and construction works is the third largest, contributing 5% to investment in the agricultural sector but has slightly declined in past five years. Agriculture in the province is highly dependent on equipment, infrastructure and the labour force (WCDoA & USB, 2018). Moreover, the agricultural equipment used are not equipped with digital technology and also not networked. Therefore, the adoption of new technology by existing farmers may need to be accompanied by training. It is evident that new technologies will require reskilling of the labour force and it also presents an opportunity for institutions of higher learning to update curriculum to align to industry needs (WCDoA, 2022). In 2020, during the first of the pandemic in South Africa, there was an increased adoption of online based system technologies to continue with some of the business operations, teaching and learning during the lock down restrictions. During this period the impact of the digital divide was apparent and businesses that adapted quickly seemed to be at an advantage. In addition, since primary agriculture is mostly in rural areas, there is also a challenge of inadequate telecommunication infrastructure. For the year 2021, information and communication investment in the provincial agricultural sector accounted for 2% to the total agricultural sector investment.

Agricultural investment is important to promote the increased adoption of cutting edge technologies and improvement of the competitiveness of the sector. Existing literature highlights many factors affecting technology adoption and this includes; access to broadband, usefulness of a technology and the cost of technology (Bowen & Morris, 2019; WCDOA & USB, 2017)

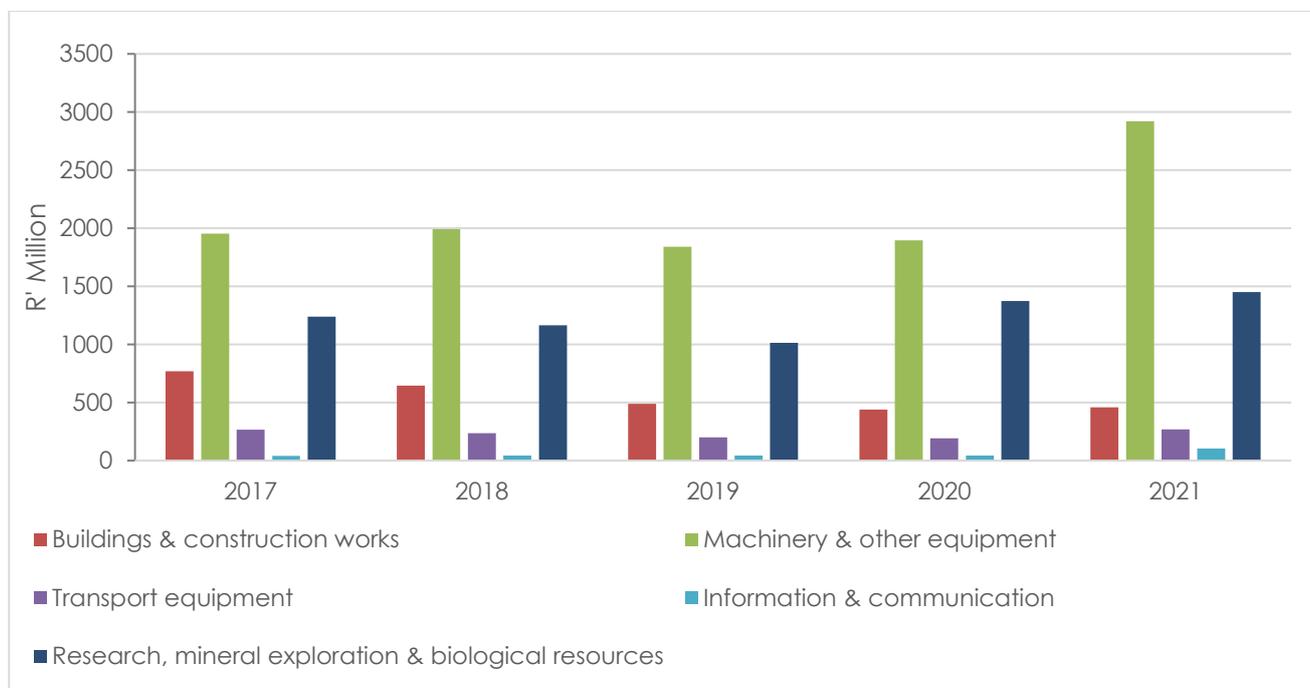


Figure 13.1: Western Cape Agriculture Investment by type during the period, 2017-2021
 Source: Quantec, 2022

(b) Agricultural technologies

Over the years the adoption of technology in the agricultural sector has contributed to increased production, improved efficiency levels and the competitiveness of the sector. According to the World Economic Forum (2019), the Forth Industrial Revolution (4IR) will bring change at speed, scale and force, unlike anything we have experienced before. The WCDoA in collaboration with the University of Stellenbosch Business School, conducted an in-depth and comprehensive study looking at “The future of the WC agricultural sector in the context of the 4th Industrial Revolution”. Based on this study, Figure 13.2 illustrates the evolution of industrial revolutions from the first until the fourth. The 4IR is characterised by Cyber Physical Systems, whereby agricultural technologies are connected and big data starts revolutionising the agricultural sector.

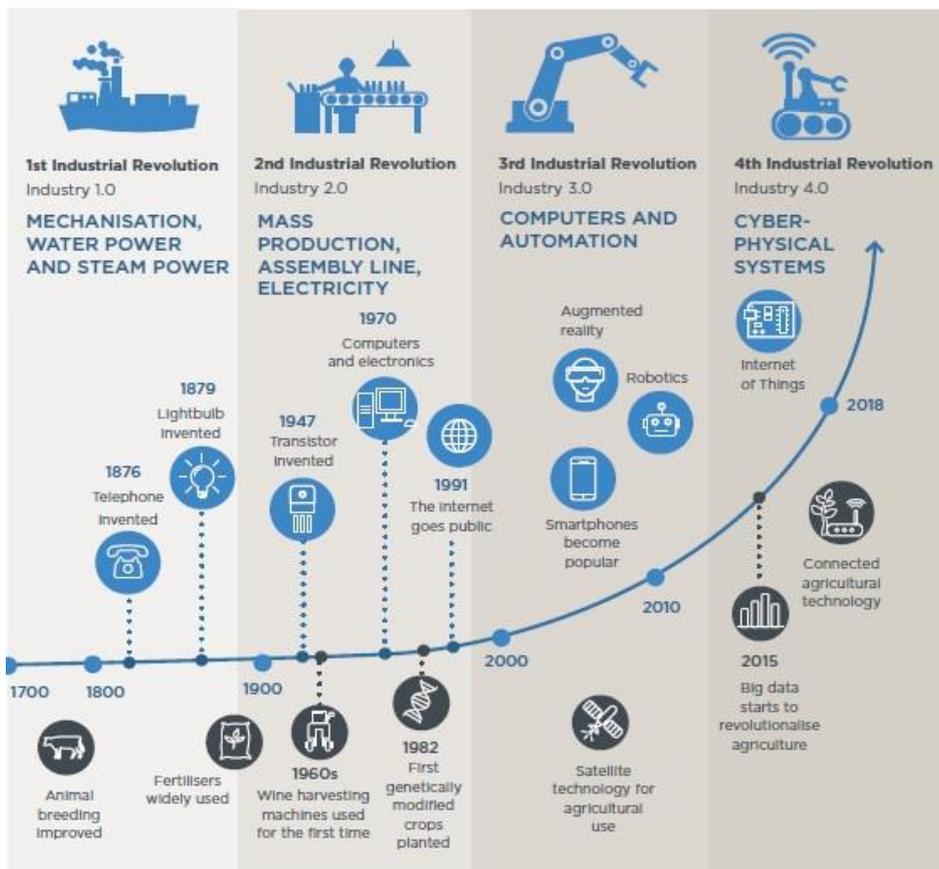


Figure 13.2: Evolution from the First to the Fourth Industrial Revolution
 Source: (WCDOA & USB, 2017)

Several technologies have major implications for the WC agricultural sector, and this includes; water Management technologies, remote sensing, smart farming, precision farming, and sensor technologies (WCDOA & USB, 2017). Water is an indispensable natural resource and is a critical input in agriculture. For example, the Fruitlook technology is an application that helps farmers improve the efficient use of water and the overall quality of yield (Trautmann, 2018). The 2021 Fruitlook survey statistics show that farmers/producers account for 62% of all users of the Fruitlook application, followed by consultants 19%, then students 10%, mentors/advisors and Researchers combined account for 10% (Smith & Yssel, 2022). Moreover, the survey also revealed that the majority of the users are located in Cape Town- Winelands, Bokkeveld, Swartland, Breede, and Grabouw-Villiersdrop among other regions. A breakdown by commodity point out that citrus producers tend to use the application on a weekly basis, Pome fruit producers use it monthly, whereas grape producers use it when a need arises. The data generated through the FruitLook technology provides stakeholders with information to make informed decisions about their water use efficiency levels.

The use of drone technology in agriculture is also contributing to smart farming. Drone technology has multiple uses and its uptake in agriculture support precision farming through the reduced use of pesticides, it is a cheaper alternative to spraying planes, is also ideal for capturing aerial views of the farms making it easy to enumerate item on the land (GreenCape, 2022). Moreover, in some cases drones are used to assess the spread of fires providing crucial information to fire fighters, and this is important also in the Fynbos region.

Barriers affecting the increased use of drone technology for commercial purposes relate to a tight regulation environment since drone operators also known as "Remote Pilots" must undergo intensive training and acquire a pilot license endorsed the South African Aviation Authority (SACAA). The high capital investment accompanying the process of operationalising use the drone on the farm also hampers to pace of uptake. The energy crisis in is a major concern and negatively impact on farm operations. This topic will be covered under the special chapter in the next update of the agricultural sector profile.

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