Andrew Partridge
Macro and Resource Economics
Email: andrewp@elsenburg.com
tel: +27 21 808 7633

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AGRICULTURAL TRENDS IN THE KLEIN KAROO AND SURROUNDS

This documents outlines recent changes occurring in agricultural production in the Klein Karoo and the coastal plain between Gouritzmond and the Langeberge mountains. This is done in order to inform plans around the development of an ecological corridor in the area based on sustainable land use practices.

Background

The recent drought in South Africa was felt particularly strongly in the Western Cape Province where significant shifts in land use practices were forced as a result of the resulting water shortages (SIQ, 2018).

Study Area

The area being studied is the area commonly referred to as the Klein Karoo, as well as the coastal plain between Gouritzmond and the Langeberge mountains. This area falls in the Eden district of the Western Cape and for the sake of the analysis, in order to get accurate data, is assumed to be the area covered by the three municipalities of Kannaland, Hessequa and Oudtshoorn. The area can be observed in Figure 1 below.

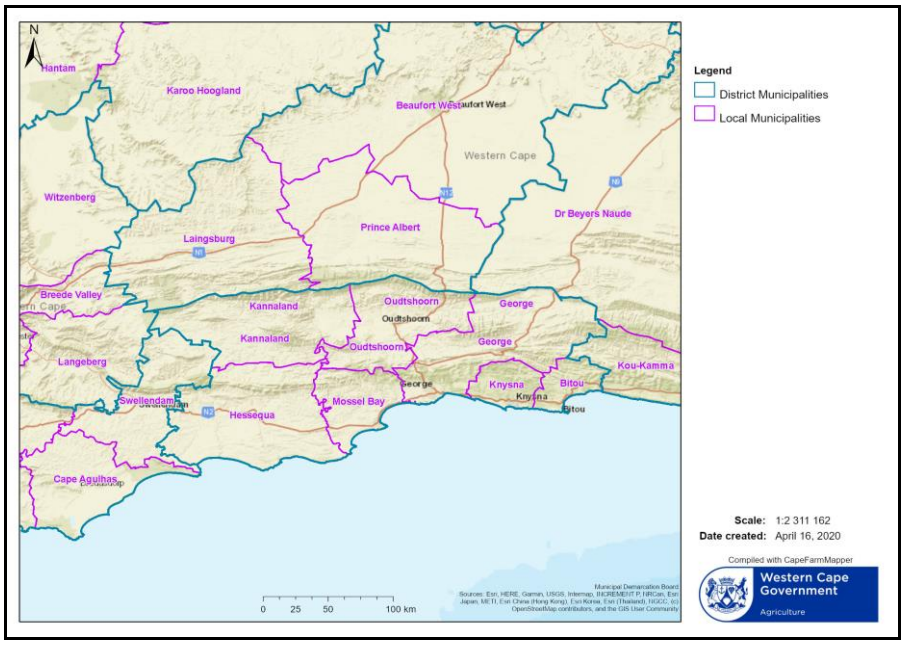

Figure 1: Municipal Demarcation Indicating Study Area

Souce: (WCDoA, 2020)

The study area comprises of a total of approximately 185 thousand people. As can be seen by the municipal breakdown of the population in Figure 2, most of these people (54%) reside in Oudtshoorn. The population of the area has grown steadily over the 25 year period, growing at an average annual rate of 0.9% per annum.

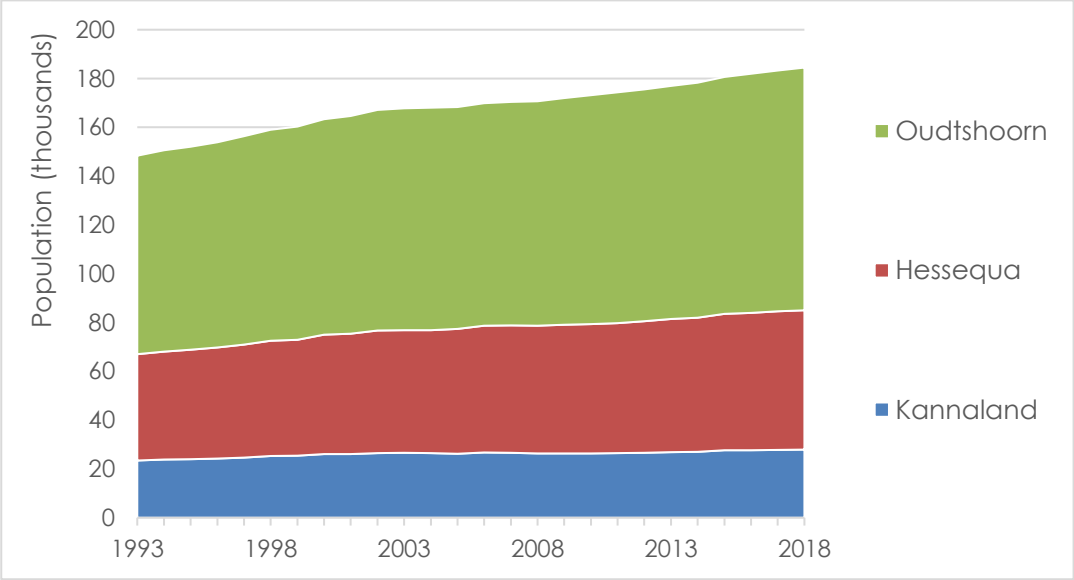

Figure 2: Population of Study Area by Municipality, 1993-2018
Source: (Quantec, 2020)

The population of the study area is significant comprising 0.3% of South Africa's national population, 2.8% of the total population of the Western Cape and 30.3% of the total population of the Eden District.

Economic Trends

The study area combined achieved a total Gross Value Added (GVA) of R11 billion for 2018. This makes up 24.5% of the total GVA of the Eden District, 1.9% of provincial GVA for the Western Cape and 0.3% of South Africa's total GVA. Economic growth has been relatively strong in this area with an annual growth rate of 7.3% outpacing inflation to result in a real annual growth rate of 1.6% (Quantec, 2020).

The municipal breakdown of GVA in Figure 3 shows that Oudsthoorn is the bigger economy of the three, totalling R5.7 billion in 2018. Second was Hessequa with R3.9 billion and then Kannaland with R1.3 billion.

In addition to being the largest economy in terms of total GVA, Oudtshoorn has also been the fastest growing municipal economy with a real annual growth rate of 1.9% between 2008 and 2018. This was compared to 1.2% for Hessequa and 1.4% for Kannaland. All three municipalities exhibited a real annual decline from 2017 to 2018 mirroring tough economic conditions across the province.

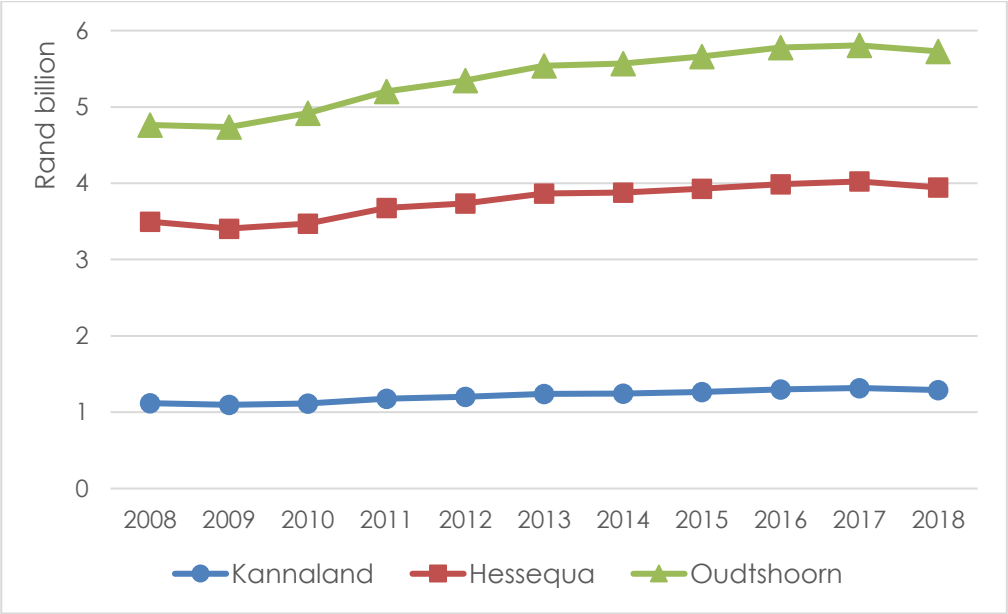

Figure 3: Real Gross Value Added for Kannaland, Hessequa and Oudtshoorn, 2008-2019
Source: (Quantec, 2020)

There has been a slight but significant shift in the sectoral breakdown of economic activity in the study area. This shift can be seen in Figure 4 which compares the breakdown of GVA by sector for 2008 and 2018. The major shift has been a decline in the importance of agriculture in the region with the sector's economic share declining from 14% to 9%. Business services maintained a constant 20% share as the most prominent sector with trade and hospitality just behind with 18% in 2018 after gaining 2 percentage points over the 10 year period.

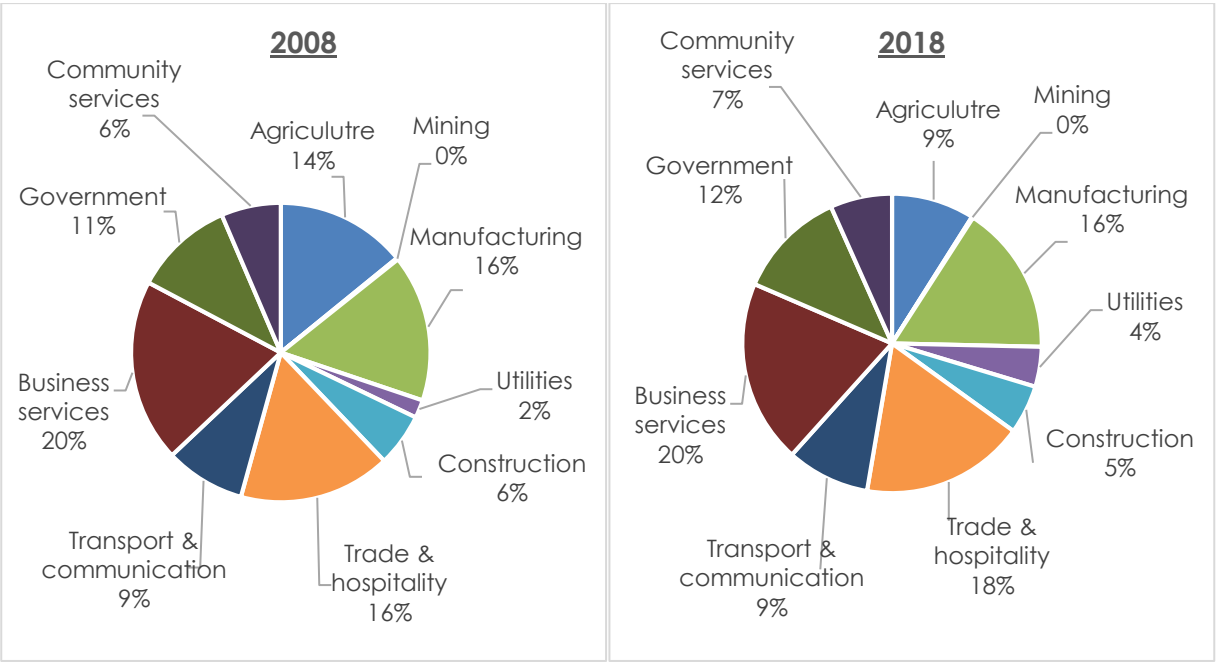

Figure 4: Sectoral Breakdown of Economic Activity (GVA), 2008 & 2018
Source: (Quantec, 2020)

Between 2008 and 2018 agricultural GVA grew in nominal terms in the study area from R704 million in 2008 to R877 million in 2018. However, the annual growth rate of 2.9% was below the rate of inflation resulting in a real decline at a rate of -3.2% per annum.

The relatively poor performance in agriculture can be further seen in Figure 5 which shows the real GVA from agricultural production in each municipality from 2008 to 2018. Hessequa has the highest agricultural GVA of the three municipalities totalling R342 million in 2018. This was only slightly higher than Oudtshoorn's R324 million with Kannaland's total the lowest at a still very significant R210 million.

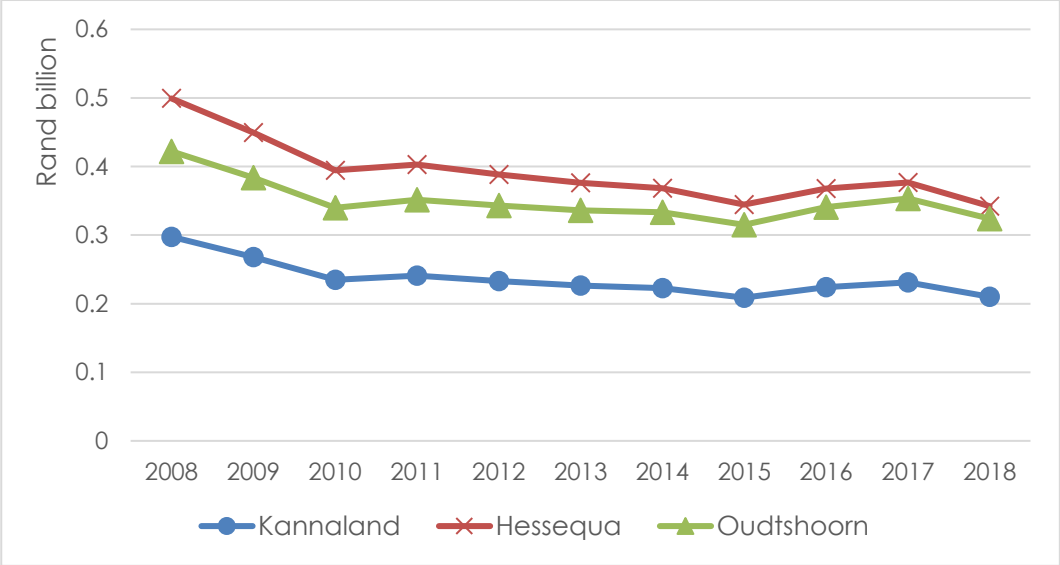

Figure 5: Real Agricultural GVA for Kannaland, Hessequa and Oudtshoorn, 2008-2019
Source: (Quantec, 2020)

On a final note, despite the real and relative decline in agricultural GVA in the study area it remains an important component of the regional economy. The sector is highly labour intensive making the sector a vital role player in reducing unemployment amongst local residents. It also has important implications for regional food security and has important links to other very important sectors such as agri processing, retail trade, hospitality and tourism (Partridge & Pienaar, 2020).

Agricultural Land Use Changes

There have been noticeable changes in the specific use of land under crop production in recent years as a result of the drought which occurred in the province as well as more long term structural shifts (Pienaar & Boonzaaier, 2018).

In 2013 there was a total of 230 thousand hectares of land under cultivation in the study areas. Despite the drought which occurred in the interim, by 2017 this had increased by 10% to 253 thousand hectares (WCDoA, 2018). The change in hectares is broken down by crop type in Table 1 below. There was large expansion in the growing of grains, oils seeds and lupines which covers most of the land area (98%). There was also a small increase, but from a very low base, in the total area under tobacco, teas and hops production. The land area being used for orchards declined by 229 hectares and vegetables by 662 hectares.

Table 1: Hectares in Study by Cultivated Crop Types, 2013 and 2017

	2013	2017	Change	Change
	Hectares			%
Grains, Oil Seeds, Lupines	223 879	247 471	23 592	10.54%
Orchards	4 213	3 984	-229	-5.45%
Tobacco, Teas & Hops	78	155	77	97.84%
Vegetables	1 908	1 246	-662	-34.69%
Total	*230 078*	*252 855*	*22 777*	*9.90%*

Source: (WCDoA, 2018)

The changes were largely consistent across municipalities, as broken down in Table 2. The exception was in tobacco, teas and hops which declined for Hessequa but increased significantly from zero in both Kannaland and Oudtshoorn. Hessequa was the location of most of the grain, oil seeds and lupines for both 2013 and 2017. Kannaland was where most of the land being used for orchards was located for both years and the same for vegetables in Oudtshoorn.

Table 2: Hectares in by Municipality and Cultivated Crop Types, 2013 and 2017

	Hessequa		Kannaland		Oudtshoorn	
	2013	2017	2013	2017	2013	2017
Grains, Oil Seeds, Lupines	188 585	204 933	9 868	12 535	25 425	30 003
Orchards	868	794	2 846	2 763	500	427
Tobacco, Teas & Hops	78	4	0	20	0	130
Vegetables	381	290	705	366	822	589
Total	*189 912*	*206 021*	*13 419*	*15 684*	*26 746*	*31 149*

Source: (WCDoA, 2018)

The changes in crop patterns were not homogenous within the different crop types. Table 3 shows the land area under production of specific grain, oil seed and lupine production. Just over half of this land area is used for pastures which increased by 7.5 thousand hectares between 2013 and 2017. There were also large increases in the amount of hectares classified as barley, summer grains, weeds and fallow. There was, however, a very large decline in the amount of hectares used for grazing.

Table 3: Grains, Oil Seeds, Lupines Grown in Study Area, 2013 & 2017

		2013		2017		Net	%
		Ha	Share	Ha	Share	Change	Change
Grains	Barley	12 421	5.55%	17 988	7.27%	5 566	44.8%
	Maize	455	0.20%	148	0.06%	-307	-67.5%
	Oats	916	0.41%	0	0.00%	-916	
	Summer grains	16 057	7.17%	24 614	9.95%	8 558	53.3%
	Triticale	11	0.00%	0	0.00%	-11	
	Wheat	31 638	14.13%	33 981	13.73%	2 343	7.4%
Grazing & pastures	Grazing	13 704	6.12%	0	0.00%	-13 704	
	Pastures	116 788	52.17%	124 339	50.24%	7 551	6.5%
Lupines	Lupines	528	0.24%	507	0.20%	-21	-4.0%

		2013		2017		Net Change	% Change
		Ha	Share	Ha	Share		
Oilseeds	Canola	18 914	8.45%	18 163	7.34%	-752	-4.0%
	Soyabeans	0	0.00%	48	0.02%	48	
Unclassified	Other Crops	7	0.00%	381	0.15%	374	5115.9%
Weeds & fallow	Fallow	11 027	4.93%	17 045	6.89%	6 018	54.6%
	Weeds	1 413	0.63%	10 258	4.15%	8 845	626.2%

Source: (WCDoA, 2018)

There are more varieties of orchards listed in the orchard breakdown in Table 4. Orchards are also high yielding meaning production tends to take place over smaller land areas. The biggest contributors to the decrease in orchards between 2013 and 2017 in the study area came from wine grapes (-209ha), apricots (-170ha) and nuts other than almonds, macadamias and pecans (-153ha). The decline was slightly offset by significant expansion in the production of olives (+125ha), macadamias (+90ha) and almonds (+58ha).

Table 4: Types of Orchards in Study Area, 2013 & 2017

		2013		2017		Net Change	% Change
		Ha	Share	Ha	Share		
Berries	Blueberry	0	0.00%	1	0.03%	1	
	Strawberry	0	0.00%	1	0.02%	1	
Citrus	Lemon	9	0.22%	15	0.37%	5	58.9%
	Naartjies	72	1.72%	99	2.50%	27	37.3%
	Oranges	8	0.18%	1	0.03%	-7	-84.8%
	Other citrus	0	0.01%	0	0.00%	0	
Exotics	Figs	28	0.67%	34	0.86%	6	21.6%
	Persimmons	0	0.00%	5	0.12%	5	
	Pomgranate	182	4.33%	136	3.41%	-46	-25.4%
	Prcklypear	10	0.25%	22	0.55%	12	111.7%
Grapes	Table grapes	164	3.90%	144	3.62%	-20	-12.2%
	Wine grapes	1 263	29.97%	1 054	26.45%	-209	-16.5%
Nuts	Almond	0	0.00%	58	1.45%	58	
	Macadamia	0	0.00%	90	2.26%	90	
	Other nuts	166	3.95%	13	0.34%	-153	-91.9%
	Pecan	0	0.00%	34	0.86%	34	
Pomefruit	Apple	3	0.08%	4	0.10%	1	16.2%
	Pear	70	1.66%	76	1.90%	6	8.1%
Stonefruit	Apricot	719	17.07%	549	13.79%	-170	-23.6%
	Nectarines	13	0.32%	9	0.22%	-4	-33.8%
	Olive	750	17.80%	875	21.96%	125	16.6%
	Peach	349	8.28%	328	8.24%	-21	-5.9%
	Plum	331	7.84%	345	8.67%	15	4.5%
Sub-tropical fruit	Avocado	48	1.14%	63	1.58%	15	30.5%
	Mango	0	0.00%	2	0.06%	2	
	Mellons	0	0.01%	10	0.24%	9	3301.3%
	Watermelon	0	0.01%	10	0.25%	10	3435.9%
Unclassified	Other fruit	25	0.60%	5	0.12%	-21	-81.2%

Source: (WCDoA, 2018)

The most notable shift in terms of vegetable production, broken down in Table 5, is a 777ha decline in the area under onion production, the major vegetable produced in the study area. Other significant declines were observed for peas (-99ha) and the flower cape rush (-86ha). The largest expansions were observed for carrots (+115ha), tomatoes (+108ha) and proteas (+102ha).

Table 5: Vegetables Grown in Study Area, 2013 & 2017

		2013		2017		Net Change	% Change
		Ha	Share	Ha	Share		
Brassicas and leaves	Broccoli	74	3.88%	56	4.49%	-18	-24.3%
	Brussel Sprouts	0	0.00%	0	0.00%	0	
	Cabbage	100	5.26%	40	3.24%	-60	-59.8%
	Cauliflower	25	1.31%	36	2.87%	11	42.6%
	Lettuce	0	0.01%	2	0.14%	2	780.0%
	Spinach	7	0.39%	4	0.31%	-4	-48.2%
Bulbs	Garlic	0	0.02%	0	0.03%	0	-8.7%
	Onions	1 168	61.21%	391	31.35%	-777	-66.6%
	Spring Onions	0	0.00%	65	5.18%	65	
Flowers	Caperush	86	4.51%	0	0.00%	-86	
	Other flowers	1	0.08%	27	2.19%	26	1754.4%
	Proteas	9	0.49%	112	8.97%	102	1105.5%
Herbs	Lavender	0	0.00%	5	0.43%	5	
	Other herbs	4	0.22%	0	0.00%	-4	
Root vegetables	Beetroot	79	4.15%	21	1.69%	-58	-73.3%
	Butternut	21	1.07%	7	0.54%	-14	-67.3%
	Carrots	83	4.33%	198	15.87%	115	139.2%
	Potato	22	1.18%	16	1.27%	-7	-29.8%
	Pumpkin	9	0.48%	27	2.13%	17	188.4%
	Radish	16	0.86%	0	0.00%	-16	
	Sweet potato	1	0.03%	5	0.39%	4	742.1%
Unclassified	Chillies	0	0.00%	4	0.32%	4	
	Cucumber	0	0.00%	1	0.08%	1	
	Eggplant	0	0.00%	7	0.58%	7	
	Gemsquash	0	0.00%	1	0.08%	1	2400.0%
	Greanbeans	14	0.71%	8	0.62%	-6	-42.6%
	Other veg	0	0.00%	86	6.88%	86	
	Peas	100	5.24%	2	0.12%	-99	-98.5%
	Peppers	25	1.31%	1	0.08%	-24	-96.0%
	Sweetcorn	59	3.08%	15	1.20%	-44	-74.5%
	Tomato	3	0.18%	112	8.95%	108	3239.8%

Source: (WCDoA, 2018)

Finally, looking at the breakdown of hops, tea and tobacco in Table 6, there was a significant 151ha expansion in tobacco production but this was largely offset by a 74ha decline in the area under tea production.

Table 6: Hops, Tea and Tobacco Grown in the Study Area, 2013 & 2017

		2013		2017		Net Change	% Change
		Ha	Share	Ha	Share		
Hops	Hops	0	0.00%	0	0.00%	0	
Tea	Honeybush	78	100.00%	4	2.73%	-74	-94.6%
Tobacco	Tobacco	0	0.00%	151	97.27%	151	

Source: (WCDoA, 2018)

An important thing to note from this section is the importance of looking at changes at the specific commodity level. Whilst there were significant changes observed for the broad crop classifications these masked much larger shifts occurring at the specific commodity level which in many cases cancel each other out. This suggests that farmers are not just quitting farming activities as a result of the drought but are tending to move into new crops in light of climatic conditions and resource constraints.

Agricultural Infrastructure

The study is well endowed with infrastructure which serves agricultural production. The area maintains a high share in a number of facilities at the district and even provincial level. This suggests that both in terms of infrastructure supporting production and providing a market for the processing of agricultural produce, the area significantly supports local agricultural producers and those in surrounding areas.

The study area has a total of 25 feedlots. This may not sound like a particularly high number but as can be observed in Table 7 this is 93% of the number of feedlots in the Eden District and almost a third of the total number for the whole of the Western Cape Province.

Table 7: Agricultural Production Infrastructure in Study Area, 2017

	Hessequa	Kannaland	Oudtshoorn	Total	Share: Eden	Share: WC
Airfields	9	3	3	15	48%	8%
Chicken Batteries	3	0	0	3	16%	1%
Dams	4 355	672	604	5 631	57%	18%
Feedlots	8	10	7	25	93%	32%
Homesteads	1 836	1 156	1 853	4 845	49%	8%
Nurseries	2	0	2	4	8%	2%
Piggeries	2	0	3	5	25%	4%
Shade Netting (ha)	20.4	2.5	2.9	25.9	13%	1%
Tunnels (ha)	2.0	0.1	4.1	6.2	9%	2%

Source: (WCDoA, 2018)

The study area also has a significant provincial share in the number of dams, agricultural homesteads and airfields. It should be noted that for some of the infrastructure categories, such as dams, it is the size rather than the number which matters and so the breakdown in terms of numbers can be a bit misleading.

In terms of processing infrastructure, listed in Table 8, the study area is also well endowed. This is particularly so for certain facilities where again there is a high share in even the provincial total. Of particular mention here is the high share of dairies, crushpens/diptanks, silos and millers. The study area has a high share in the number of distilleries, wine and olive cellars, abbatoirs and packhouses at the district level but this is still a small share of the total at the provincial level.

Table 8: Agricultural Processing Infrastructure in Study Area, 2017

	Hessequa	Kannaland	Oudtshoorn	Total	Share: Eden	Share: WC
Abattoirs	7	1	4	12	50%	13%
Crushpens / Diptanks	614	97	90	801	58%	24%
Dairies	141	17	30	188	57%	25%
Packhouses	5	27	7	39	44%	4%
Silos	25	0	4	29	83%	22%
Brewery	0	0	0	0	0%	0%
Distillery	1	0	0	1	100%	7%
Fruit Packers	0	1	1	2	14%	1%
Cool Chain Facilities	0	1	1	2	13%	1%
Millers	1	1	6	8	80%	18%
Olive Cellar	0	2	2	4	50%	5%
Wine Cellar	3	10	1	14	61%	2%
Tea Processing	0	0	0	0	0%	0%
Other Facilities	9	2	3	14	39%	5%

Source: (WCDoA, 2018)

It is clear that the area is well endowed with infrastructure which serves agricultural production. It is also worth noting the variety in infrastructure with which the area is well endowed. This variety means that a diverse range of agricultural activities could be supported.

Agri Tourism

Agri tourism provides a means with which agricultural producers can earn extra income and also help to reduce the high risk associated with agricultural production through reducing dependence on income from agricultural production.

Table 9 shows the number of specific agri tourism activities and facilities in the study area, again also with the share at the district and provincial level. The most stand out share is in ostriches where the area has 58% of the provincial total. Other high provincial shares are noted for 4x4 facilities, ecotourism, farm stalls, mountain biking, birding, camping and hiking.

Table 9: Specific Agri tourism Activities and Facilities in Study Area, 2017

	Hessequa	Kannaland	Oudtshoorn	Total	Share: Eden	Share: WC
4x4 Facilities	6	19	6	31	78%	15%
Accommodation	51	57	65	173	37%	9%
Birding	11	12	16	39	38%	11%
Breweries	0	0	0	0	0%	0%
Camping	10	15	10	35	47%	11%
Cellars & Wine Shops	1	3	0	4	100%	2%
Conference & Functions	11	6	15	32	32%	5%
Ecotourism	20	13	18	51	42%	13%
Farm Market	1	0	3	4	29%	6%
Farm Stall	13	6	8	27	47%	13%
Fishing	17	7	12	36	44%	10%
Hiking	23	25	34	82	50%	11%
Horse Riding	8	3	6	17	30%	9%
Mountain Bike	19	21	21	61	55%	12%
Ostrich	0	3	8	11	92%	58%
Picnics	11	10	7	28	39%	6%
Quad Bike	3	1	2	6	38%	7%
Restaurant	11	6	15	32	32%	5%

Source: (WCDoA, 2018)

A point worth noting on agri tourism is the high district share of all the activities and facilities listed above. This shows the importance of the area for agri tourism in the Eden district as well as the vast potential these activities have for boosting the local economy and helping agricultural producers reduce the risk associated with agricultural production.

Conclusion

To conclude, despite being clearly negatively impacted by the recent drought, agriculture remains important in the Klein Karoo and surrounding areas.

When the analysis was refined to look at specific commodities, there were significant production shifts identified. This shows a positive capacity of producers in the region to move into the production of products which are more attune to current resource constraints.

The analysis also highlighted the high potential of the area to create opportunities around agricultural production. In addition to being well-endowed in terms of infrastructure which supports agricultural production, the area is also well endowed with agri processing facilities and has already shown promise in the development of agri tourism ventures.

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