GTAC/CBPEP/ EU project on employment-intensive rural land reform in South Africa: policies, programmes and capacities

Municipal case study
Matzikama Local Municipality, Western Cape

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Abbreviations and acronyms

BEE	Black Economic Empowerment
CASP	Comprehensive Agricultural Support Programme
CAWH	Community Animal Health Worker
CEO	Chief Executive Officer
CPA	Communal Property of Association
CPAC	Commodity Project Allocation Committee
DAAC	District Agri-Park Advisory Committee
DAPOTT	District Agri Park Operational Task Team
DoA	Department of Agriculture
DRDLR	Department of Rural Development and Land Reform
DWS	Department of Water and Sanitation
ECPA	Ebenhaeser CPA
FALA	Financial Assistance Land
FAO	Food and Agriculture Organisation
FPSU	Farmer Production Support Unit
FTE	Full-Time Equivalent
GGP	Gross Geographic Product
GDP	Gross Domestic Product
GVA	Gross Value Added
HDI	Historically Disadvantaged Individual
IDP	Integrated Development Plan
ILO	International Labour Organisation
LED	Local economic development
LORWUA	Lower Olifants Water Users Association
LSU	Large stock units
NDP	National Development Plan
PDOA	Provincial Department of Agriculture
PGWC	Provincial Government of the Western Cape
PLAS	Proactive Land Acquisition Strategy
SDF	Spatial Development Framework
SLAG	Settlement and Land Acquisition Grant
SSU	Small stock unit
SPP	Surplus People Project
TRANCRAA	Transformation of Certain Rural Areas Act
WUA	Water Users Association

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Overview of study

This study is part of the CBPEP/GTAC Project: Employment Intensive Land Reform in South Africa: Policies, Programmes and Capacities which aims to develop a set of options for rural land reform in South Africa aimed at generating a large number of employment, self-employment and livelihood-enhancing opportunities through the promotion of small-scale agriculture. This study focuses on the Matzikama municipal area in the West Coast district of the Western Cape.

Overview of Matzikama

The Matzikama municipal area has an average of between 100-300mm per year which means most of municipal area cannot be used for arable agriculture. There is however, the Olifants River that flow through a part of the southern part of the area, with a 237km canal system that runs parallel to the River. This provides a rich production zone of at least 16000ha of irrigated land which is primarily under wine grapes but also supports table grapes, vegetables and dried grapes (raisins and currants). Most of the municipal area, about 1,1m hectares, is used for extensive grazing lands with some dryland cultivation of wheat and oats where this is possible – increasingly more limited with the drought years over the last 5 year.
There are about 72000 people in the municipal area with about 6 000 – 7 000 permanent workers and 20 000 casuals involved in agriculture.

Land reform has been very limited in the area with only 37000ha acquired to date of which about 18000 of those hectares are Ebenhaeser - one of the two communal TRANCRAA[1] areas in the municipal area. If Ebenhaeser TRANCRAA land is excluded, then only 1 percent of land has been redistributed – 18 907ha. There are limited numbers of small-scale farmers operating in the area, the greatest number being located at Ebenhaeser. Most of the small-scale farmers in the area use small bits of land obtained from the municipality, the national state or from other unknown owners. Most farmers practice livestock farming given the absolute requirement for irrigated water for any arable farming to take place. This study identified 21 groups of farmers with a total number of farmers in the order of 418 of which 223 farm on the two TRANCRAA areas. Most of the farmers have very few livestock and are very poor.

The implications of redistributing 50% of the land in Matzikama

The focus of this CBPEP study was to attempt to understand the implications if 50% of the land was redistributed. Given the vastly different nature of the farming in the irrigated area and in the extensive grazing area, the approach was to look at the redistribution of 50% of the irrigated land and then separately 50% of the grazing lands. At this point, the analysis of the dry land cultivation areas and those using ground water have not been included in the study. These will occur at another point in the study.

Fifty percent of the land irrigated from the canal is 7481 hectares and 50% of the extensive grazing land is 508 070 hectares. Current prices of land in the irrigated area were drawn from a recent analysis by valuers of land in the irrigated area, linked to the Ebenhaeser land claim, while the price of extensive grazing land was determined from interviews with commercial farmers and with extension officers. The average price of grazing land is R1500 per hectare and the price of land in the irrigated area ranges from R22 500 for uncultivated land without a water allocation and R240 000 per hectare with existing vineyards. The total cost of land to be acquired in terms of this analysis is as follows:

1. Total cost of the acquisition of 508 070 hectares of grazing land is R762 105 000;
2. Total cost of the acquisition of the 7481 hectares of arable land with various assumptions discussed below would be R1 032 355 500.

[1] A former “coloured rural area” transferred through the Transformation of certain Rural Areas Act, 94 or 1998

3. A land acquisition total of R1 794 460 500.

The approach adopted for this analysis for the *extensive rangeland area* was that firstly 10% of the redistributed land would be allocated to municipal commonage where it was assumed that 3000 ha farms will be allocated to 6 farmers each to share. This land will result in 17 such farms or (102 farms if we count each share as a separate farm). Secondly, the majority 90% of the land would be allocated to single owner enterprises on farms of 3000ha – in total 152 farmers.

In estimating the farming outputs of these different farms, assumptions are made about the lambing rate, the production costs, the number of workers employed and at what levels of wages, and the price of the lambs sold. With these assumptions the following are the outputs of the change in farming enterprises:

1. 254 farmers established – with 102 of these farmers operating at a very small scale on about 500 hectares, part of a shared communal farm;
2. A gross profit of R11.5m although this is R10.3m less than estimated for commercial farmers;
3. An increased total of 222 more workers significantly including family labour albeit earning R2.7m less in wages;
4. An increase in 306 households benefitting; and
5. An increase in 1079 more animals consumed by the households involved.

To achieve these outputs it is estimated that it would cost:

1. R762m in land acquisition costs (as above);
2. R28m in limited set up costs – assuming most of the perimeter fencing and water points are in good order, and that a limited number of sheep per farmer is provided;
3. An amount of 14.4m in operational costs in the first year after acquisition.

With regard to the *irrigated area*, for the purposes of this analysis, it was assumed that 20% of the land would be allocated to smaller-scale farmers on farms of 6ha each – a total of 249 farms/farmers. The bulk of 80% would be allocated to farms of 20 ha in size – a total of 299 farms/farmers. In total 549 farmers – significantly more than are currently farming the land.

A further assumption was that each farmer entered into a mixed farming arrangements – striking a balance between long term and short term crops and between more risky crops such as vegetables and safer crops such as lucerne.

The following outcomes are anticipated with these assumptions:

1. A gross income of R827m with a gross profit of R372m – an increase of R30.4m in gross profit;
2. A total of 7847 jobs which is a net increase of 2975 jobs earning a net increase of R9.4m in wages.

This intervention would cost the following:

1. A land purchase amount of R1,03bn;
2. An amount of R1.11bn in set up costs;
3. R455m in first year operational costs;
4. R185m in an additional two years operational costs for the long-term crops – grapes that are planted on 50% of the farms.

The projected improved set of outcomes is directly related to a shift from wine grapes to other crops, notably tomatoes and other vegetables, where the gross profit tends to be proportionately higher, but production of which carries a higher risk. The study explores why the current commercial farmers haven't made the shift from vineyards to other crops and emphasises the need for careful and well supported planning and implementation if this approach is going to be followed.

Mentoring, management and extension support, coming from a blend of private sector and state actors would need to be implemented as a guaranteed adjunct to an intervention of this nature, or face the ruinous result that has occurred in much of the unsupported land reform in the programme to date – with devastating consequences for the economy, for jobs and for the livelihoods of rural households that are currently dependent on the agricultural sector.

Figure 1: Map of Matzikama location

1 Background

The CBPEP/GTAC Project: *Employment Intensive Land Reform in South Africa: Policies, Programmes and Capacities* aims to formulate a set of options for rural land reform in South Africa aimed at generating a large number of employment, self-employment and livelihood-enhancing opportunities through the promotion of small-scale agriculture.

The anticipated project outputs include:

- formulating national policy guidelines on the promotion of employment intensive agriculture;
- designing programmes for implementation by national and provincial departments in conjunction with non-governmental partners;
- costing such programmes;
- conceptualizing the provision of relevant support services for those acquiring access to land in different settings, including provision of extension advice and support for marketing.

A series of commodity and thematic studies have been conducted, prior to research being undertaken in four municipalities to identify local potentials for employment intensive land reform.

1.1 Key dynamics shaping agriculture and potential for employment intensive land reform in South Africa

The agricultural sector has been radically reshaped by wide-ranging changes in the global economy which have impacted on workers, producers, processors and retailers in different ways (Simbi and Aliber 2000, Liebenberg and Kirsten 2013, ILO 2015). Employment in South African agriculture has declined every decade since the 1970s, while the number of farms has consolidated and there has been considerable investment in mechanisation and uptake of new digital technologies. In the 1960's some 14% of the total South African workforce were employed in agriculture. This has declined to around 5% today. There are currently about 32,000 VAT registered commercial farmers in South Africa, of which between 5,000 (15.6%) and 7,000 (21.8%) produce approximately 80% of agricultural output (Altbeker and Masiangako 2019).

In a context of aggressive deregulation, the imperative for producers to ensure their competitive edge has led to a range of cost cutting and efficiency measures. Between 2000 – 2016 the value of agricultural output grew by 1.9 percent, but employment collapsed at an average annual rate of 2 percent. Overall agriculture is reported to have shed some 280 000 jobs in this period (Bhorat and Khan, 2018). This new environment has created 'winners' and 'losers' on two levels:

- Amongst **producers** positioned to take full advantage of new technologies and markets and those who face barriers to entry.
- Amongst **workers** who are retained as permanent employees and those who are retrenched and displaced off farms (Ewert and Du Toit, 2005).

Land reform has tried, largely unsuccessfully, to insert itself within this setting. These broad trends, with specific sectoral variations, form part of a national backdrop where only 43% of adults are employed, versus the global average of between 60 - 65% (Altbeker and Masiangako 2019).

This is the context in which we seek to identify options to promote and advance employment intensive land reform and agriculture. This presents a significant challenge, as there are legitimate concerns that to date land reform has resulted in a net loss of jobs. These job losses are not just at the point of primary production, but also up and down the different agricultural value chains. In Matzikama, opportunities for more employment intensive land reform and agriculture are largely restricted to irrigable land, but even here there remain constraints to be addressed. The main job creation opportunities lie within viticulture, fruit and vegetable production.

However, there are significant challenges to be overcome. The systematic exclusion of black South Africans from access to land, finance and extension support has restricted the growth of a cohort of capable and experienced smallholder producers who are well positioned to take advantage of land reform and the opportunities which access to irrigable land present. Even where such producers have gained access to land and water, a combination of factors create further barriers to entry and drive up production risk. These include:

- inadequate/erratic state support;
- the ability to secure adequate market access in a highly competitive environment;
- the accelerating climate emergency;

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These challenges need to be systematically addressed if Matzikama Local Municipality can make good use of its key asset - the availability of water for irrigation through the Olifants River Irrigation scheme. The allocation of water is set to expand, assuming that the plans to increase the capacity of the Clanwilliam dam and to upgrade the canal system are implemented.

Matzikama is also home to the Ebenhaeser restitution claim on land, which due to its proximity to the ocean, enjoys a favourable temperature regime, compared to much of the remainder of the municipality. Ebenhaeser forms part of a wider area which will be in line to receive a larger share of available water through water allocation reform and expansion of the irrigation scheme. New infrastructure and holding dams will provide land rights holders with a reliable source of water under pressure. This is projected to become available from April 2020.

While investment in irrigation infrastructure should increase water storage and expand access to water, there remains the risk that in a period of extended drought, this irrigation source may fail. This would have a massive impact on production and employment.

1.2 Structure of the report

This report is structured as follows:

- A brief overview of the local municipality:
- An analysis of the performance of land reform to date in Matzikama;
- A profile of the small-scale farming sector:
- The identification of key features characterising the large-scale commercial farming sector and their role to date in land and agrarian reform;
- An examination of the settlement patterns within the municipality and the nature of local food demand and markets.

This provides the basis for an analysis of possible options which could contribute to a more employment intensive approach to land reform. Here we focus on:

- Promising commodities, production systems and marketing strategies;
- Potential land to acquire and utilise for land reform;
- Opportunities to improve farmer support;
- Assessment of constraints and risks;
- Production scenarios for selected commodities.

The report concludes with a discussion of the options and their fit within the Matzikama context.

1 Matzikama overview

This section provides a brief overview of the Matzikama municipality. We sketch the ecological and socio-economic extremes which characterise the municipal landscape. Matzikama spans highly fertile and

productive areas with access to irrigation from the Olifants River irrigation scheme. It is also characterised by large impoverished and remote land areas with very low rainfall, where grazing, primarily of small stock on extensive rangeland, provides the only land-based livelihood opportunity.

1.1 Overview of socio-economic conditions within the municipality

1.1.1 Population

In 2018, the population of the local municipality was estimated to be 71,403, which comprised 20 821 households in 2016. Table 1 below provides a breakdown of the age cohorts.

Table 1: The working population dependency ratio (PGWC 2018: 2).

Year	Children: 0 – 14 Years	Working Age: 15 – 65 Years	Aged: 65 +	Dependency Ratio
2011	18 002	44 946	4 199	49.4
2018	18 395	48 822	5 352	48.6
2023	18 273	51 409	6 490	48.2

It is important to note that the dependency ratio assumes that those people under the age of 15 and those over 65, are dependent on those in the 15 - 65 year cohort, who are of working age and are presumed to be in employment. In practice however, many of those who fall in the 15 - 65 category are not working, and in fact may be partly or wholly dependent on those family members aged 65+ who have access to pensions.

1.1.2 National trends in agricultural employment

As noted in the introduction, employment in the agricultural sector has been in decline for several decades. Table 2 below shows the changing composition of the national workforce employed on farms since the 1920's. However, it should be noted that data for agricultural employment in the remainder of the countryside i.e. the former bantustans cannot be regarded as reliable.

Table 2: Historical employment on farms (Altbeker and Masiangako 2019: 10).

	1910s	1920s	1930s	1940s	1950s	1960s	1970s	1980s	1990s	2000s
	Decade averages (thousands)									
Family	78	83	80	61	56	57	40	24	17	11
Regular	411	523	730	699	773	806	704	677	603	411
Casual	265	354	467	583	738	716	584	485	349	417
Domestic	8	0	0	28	137	123	94	61	20	0
Owners	48	65	76	94	93	86	64	54	46	37
Total (excl. Domestic)	802	1,025	1,354	1,438	1,661	1,665	1,392	1,241	1,014	896

Table 2 Illustrates both the shrinkage and the accelerated segmentation of the agricultural labour force. It also highlights the consolidation of farms and their ownership by fewer individuals and companies. Most recent data, from the third quarter of 2019 suggest that two thirds of the primary agricultural jobs are associated with labour intensive horticulture and field crops.

1.1.3 Agricultural employment in Matzikama

Matzikama local municipality mirrors these national trends. The 2013 SDF highlights "a major restructuring from permanent to casual workers as well as reducing labour needs where possible, with there now being only 6 000 – 7 000 permanent workers and 20 000 casuals" (CNDV Africa 2013: 220). More recent figures

suggest that unemployment has been climbing within the local municipality, exacerbated primarily by high youth unemployment rates.

In 2014 approximately 25,492 people were employed in the agriculture, forestry and fishing sector in Matzikama – a workforce predominantly consisting of semiskilled and unskilled workers. In 2016 this sector made the largest contribution to municipal GDP (23.7%) (PGWC, 2018).

1.1.4 Poverty

Real GDP per capita in Matzikama was R57,924 in 2017, which is reportedly considerably below the averages for the West Coast District and the Western Cape as a whole. At the same time income inequality is reported to have increased in the local municipality between 2010 and 2016, although these rates of income inequality are marginally lower than elsewhere in the province. (PGWC 2018). Drug-related crimes in 2018 have increased by 12.3% over the figures for 2017.
An important indicator of economic hardship and associated social problems has been a reported rise in malnutrition in the local municipality from 1.08% (2014) - 2.3% (2016). There has also been a reported increase in the incidence of HIV and tuberculosis cases (PGWC 2018).

1.2 Agro ecological conditions: mapping existing land uses and capability classes

Agriculture is the main driver of economic activity within the West Coast District. This sector registered the highest average growth rate in the ten-year period between 2006 and 2016 of 5.2%, before contracting in recent years due to the effects of drought.

In 2018 agriculture, forestry and fishing formed the largest sector within the local municipality accounting for 23.7%, although this was down from 25, 9% of total GVA in 2017. The sector accounted for 41.1% of total employment in 2016 - (11 441 jobs).

1.2.1 Available irrigation and groundwater resources and their current utilisation

The Olifants River Vanrhynsdorp Government Water Scheme is at the heart of the local agricultural economy, supplying irrigation, industrial and domestic water through 237 km of canals to a number of towns in the Matzikama municipality, including Ebenhaeser (DWS 2019).

The National Development Plan (NDP) highlights the importance of reviving and expanding irrigation schemes to provide the basis for accelerated job creation. There are numerous irrigation opportunities within the local municipality. These primarily make use of water from the Clanwilliam Dam although there are areas which make use of groundwater for centre pivot irrigation..

The SDF distinguishes between:

- Intensive irrigation areas of the Olifants River Irrigation Scheme;
- Intensive irrigable areas in the Troe-Troe River and Unionskraal areas;
- Limited large-scale groundwater irrigated vegetable and potato production areas within the Sandveld area south of Vredendal.

The agricultural potential of the remainder of the local municipality is limited to:

- Extensive small-stock farming areas throughout the municipal area, constrained by conservation initiatives and marginal conditions for dryland farming (e.g. grain, fodder);
- Small areas of low-mass, high-value crop production (e.g. Hoodia or other medicinal plants), often on the periphery of remote settlements.

The Aurecon study (Department of Water and Sanitation 2019) has identified the extent of land under irrigation, cultivated dryland and uncultivated dryland. The study also divided up land in the local municipality into different sub-areas:

- Sub-area 4 which includes the area from the Bulhoek Weir to Lutzville (the northern side of the River)
- Sub-area 5 which includes the area from Klawer to the coast (the south side of the River). Sub-area 4 includes some area which is outside Matzikama but the delineation is useful for analysis and estimation purposes which are discussed later in the Analysis section.

The report has identified the following land uses and hectarage in their study area – of which the cultivated areas are of particular importance for this Matzikama study.

Table 3: Land classification within the Aurecon study area

Sub-area	Cultivated irrigated (ha)	Cultivated dryland (ha)	Uncultivated dryland (ha)	Total (ha)
Area from Bulhoek weir to Lutzville	8 500	21 000	115 600	145 100
Area from Klawer to the Coast	7 300	10 200	103 100	120 000
Total	**15 800**	**31 200**	**218 700**	**265 100**

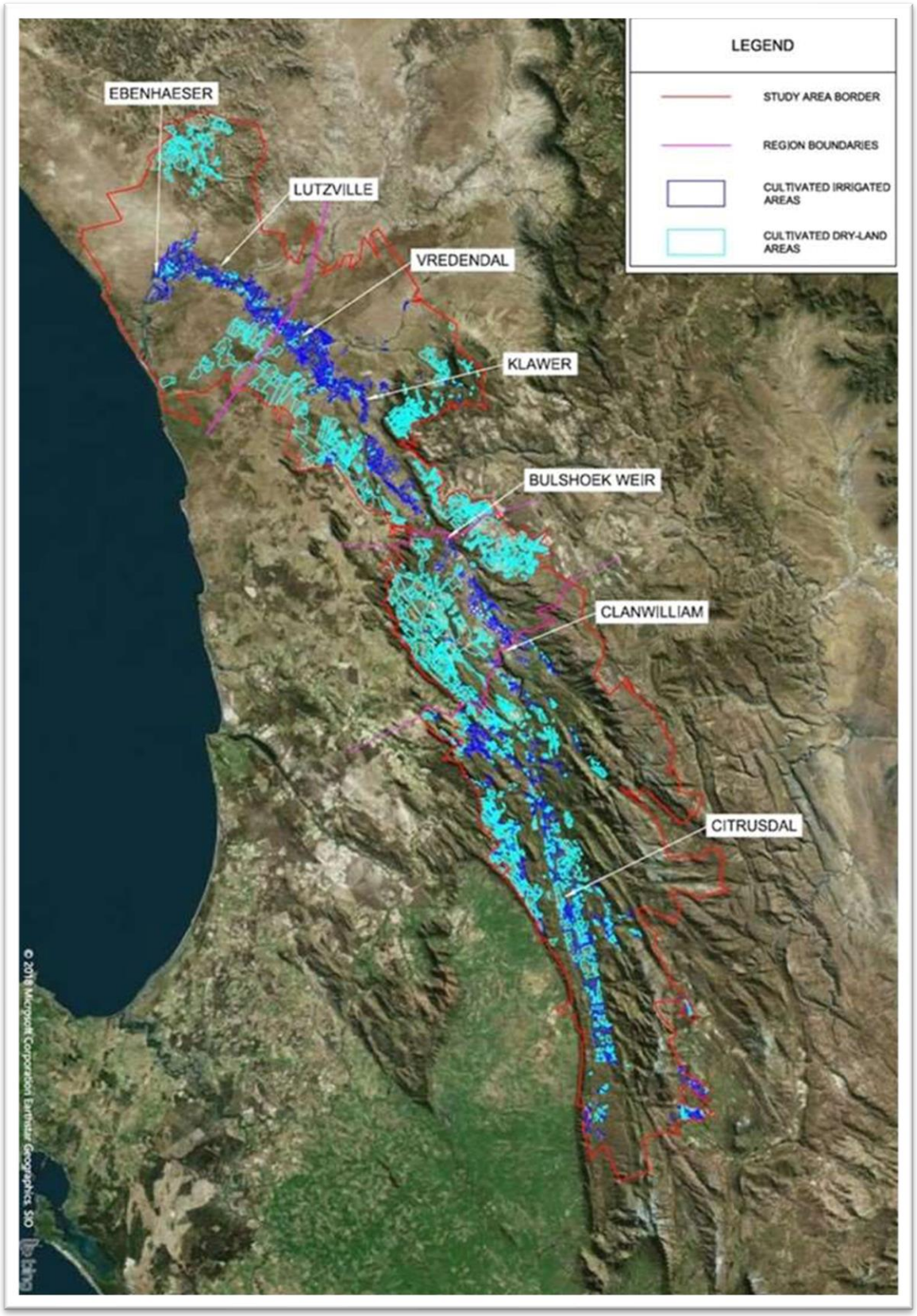
The Aurecon Study identifies that there are 15 800ha of cultivated land which is currently under irrigation. The new water that is projected to become available with the raising of the Clanwilliam dam wall will extend to the cultivated dryland primarily occurring adjacent to it.

The current LORWUA managed irrigation scheme operates and maintains the canal system as far as the Ebenhaeser balancing dam. Thereafter there is a canal to the Ebenhaeser community which is operated and maintained by the residents. The water is distributed through a furrow and canal system, but lacks any formal administration of allocations. As of April 2020, a new high-tech irrigation scheme built with funds from the Department of Rural Development and Land Reform under the direction of the Department of Agriculture, is scheduled to come into operation.

The Clanwilliam Dam expansion project aims to raise the dam wall by 13 m, with three quarters of the expanded water allocation aiming to benefit new, black farmers. According to a situation analysis carried out to assess the feasibility of a proposed Agri Park, this expanded access to water could result in the creation of an estimated 2500 permanent and 250 temporary jobs, and could enlarge market access, resulting in greater production volumes. However, the basis for these calculations is not explicitly specified within the report.

The capital cost of establishing this new irrigation area is estimated at just under R1 billion (R924, 93 million). Current estimates of operating costs are R 28,4 million per annum. The DWS feasibility study sets out a range of options to make use of the water available from raising the Clanwilliam Dam wall. It proposes that water will be supplied to a combination of private development and community supply schemes, with private owners being required to enter into HDI partnerships as a condition for gaining access to additional water.

Figure 2: The location of irrigated land and cultivated dryland areas within the West Coast municipality.



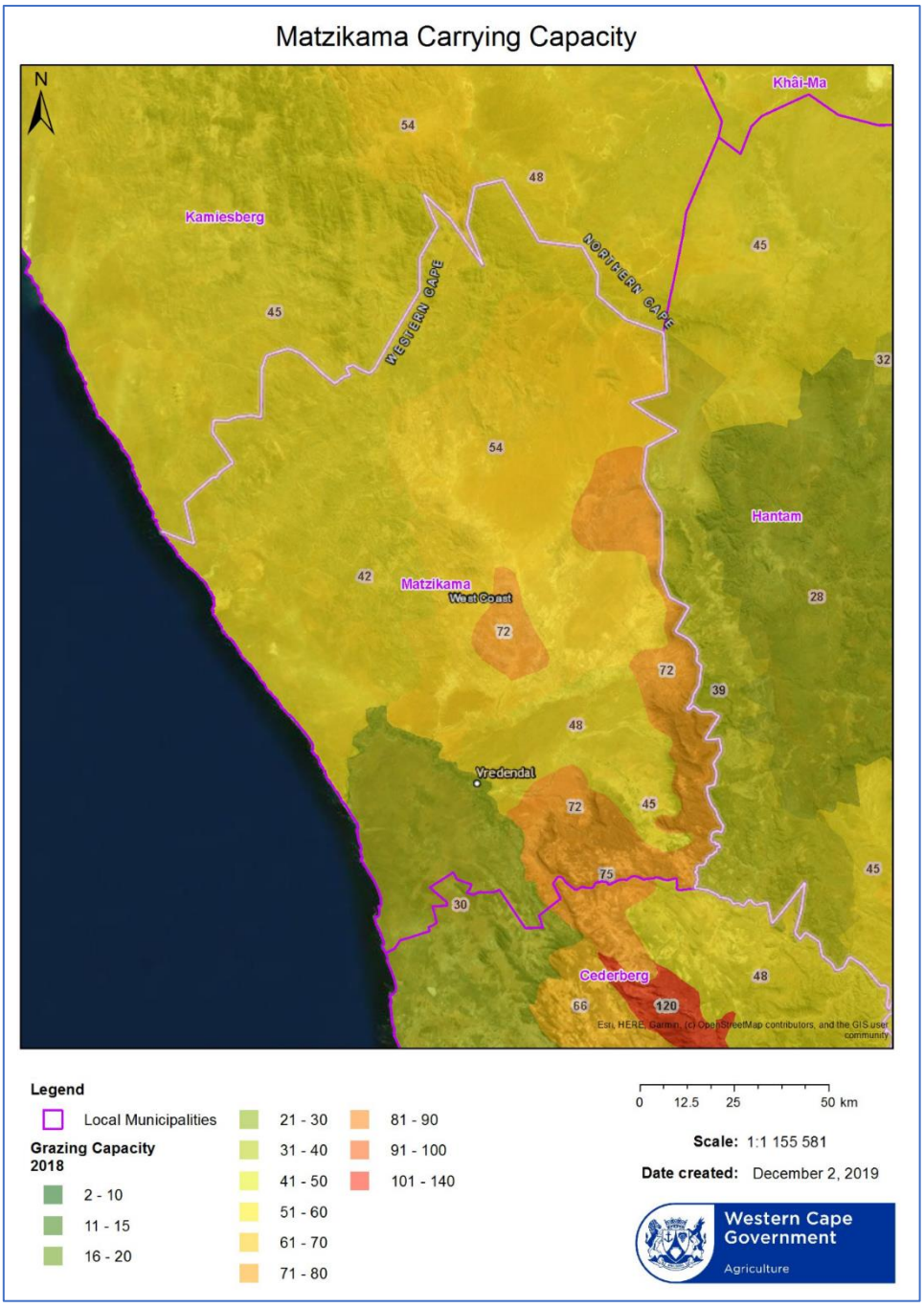
1.2.2 Extensive grazing land

Most of the land in the Matzikama area falls outside of the irrigated area and here the primary land use is extensive rangeland livestock farming, primarily with sheep. The grazing capacity of the arid rangeland is poor, ranging from 30ha per Large Stock Unit (LSU) to the extreme of 72ha per LSU. This is shown in the map of the area below. The limited rainfall means that the ability to farm with livestock is itself severely curtailed and therefore has a direct implication for land reform and the nature of agriculture that can take place.

Estimation of extent of extensive grazing land

The Aurecon Study above has identified that the Uncultivated Dry/Arid area in the two relevant sub-areas in the study area totals some 118 700ha. An initial estimation of the extent of the extensive grazing on the remainder of the land outside of the Aurecon study area in the Matzikama municipal area is 870 000 ha. Total grazing land is therefore estimated to be 1088700ha.

Figure 3: Department of Agriculture estimates of grazing capacity within Matzikama Local Municipality



1.3 Current land ownership patterns

As is discussed above, the land in Matzikama comprises the irrigated land adjacent to the Olifants River, and fed by the canal system, and the extensive rangeland and dryland cropping land outside of the area.

The DWS study prepared by Aurecon included a detailed analysis of state and private land ownership in the Olifantsriver catchment.

Table 4: State and private land ownership in the Olifants River study area

Sub-area in Olifants River	Government (ha)	Private (ha)	Total
Bulhoek to Ebenhaeser via southern side of River mainly in Matzikama (includes 18000ha of Ebenhaeser owned by the Community)	22 800	109 800	132 600
Northern side of the River from Klawer to Coast	2 200	130 900	133 100
Total	25 000	240 700	265 700
Percentage	**9%**	**91%**	

The distribution of this land is depicted in the Aurecon map below. However, it is important to note that the Ebenhaeser portion currently shown as state land will soon be categorised as private land held by the Ebenhaeser Communal Property Association on behalf of its members.

It is clear from the table above that state land is extremely limited in the area. State and land comprises less than 10% of the total, and much of that is located in the mountainous Cedarberg. This means there is limited potential to make use of state land for the purposes of land reform. The implementation of land reform in the high potential irrigation area will require that land is obtained through voluntary purchase or expropriation from the private sector. Clearly however the purchase of land is only the first step towards an effective land reform programme. If the state is to meet its objectives of employment intensive land reform, a systems approach to land reform planning and implementation support will need to be put in place. This will need to have a strong emphasis on the profiling and selection of smallholder producers and create opportunities for production and livelihoods diversification at different scales.

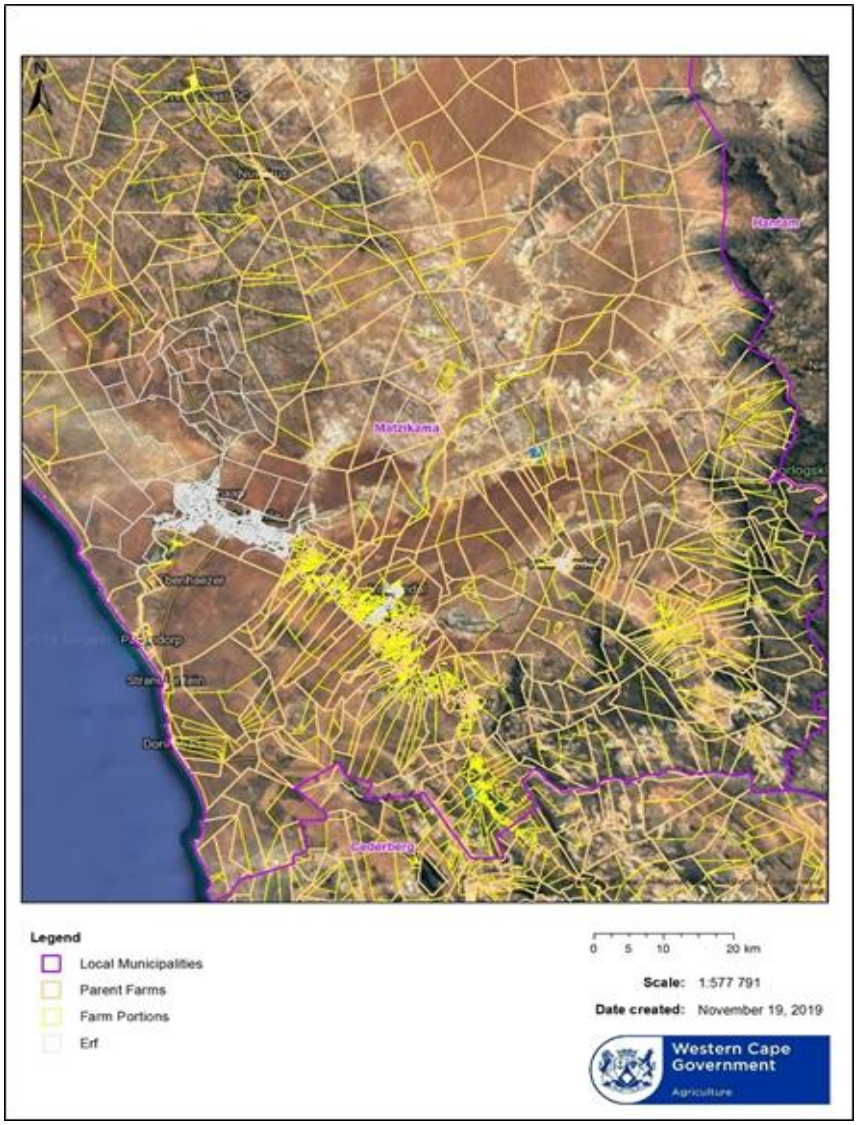
A limited analysis of the ownership patterns of private land in the Aurecon Study Area, as shown in the map below, points to the fact that the properties are relatively small in size. (See table 5 below). It is important to note that 71% of the properties are less than 20 hectares in size. This reflects the development history of the area, rooted in the design of a poor-white affirmative action programme in the 1920s onward, where individuals were granted access to a portion of land with water and received extensive state support. Over the years individuals who failed with farming enterprises sold their irrigated portions, either wholly or in part. Although land ownership changed hands, the portions were generally farmed separately, as they could not be easily amalgamated with other properties.

Table 5: Relative property sizes in DWS study area

Size range (ha)	Number	Percentage of total
1-4.9	546	28%
5-9	410	21%
10-19	420	22%
20-39	189	10%
40-99	109	6%
100-299	69	4%
300-1000	101	5%
1000-	83	4%
Total	**1927**	

The high proportion of small properties making up the irrigated area of the Olifants River canal system can be seen in the map below.

Figure 4: Density of small intensive irrigated properties in the irrigable area



The study has attempted to establish a breakdown of land ownership within the irrigated area. An accurate analysis of land ownership has proved to be very difficult, as the properties are registered in a variety of names. A significant number of properties are registered in the name of a Trust. In this scenario where land is sold, the registered owner may remain as the Trust, but the trustees change to the new individuals who have purchased the property. A fine-grained analysis to establish the identity of the trustees (i.e. the natural persons) would involve a long and complex process which is beyond the scope of this study. However, analysis of those properties in the Aurecon Study area which have water allocations[2], reveals that just over 50% of the properties are in the hands of single-property owners. Some 30% of the properties are registered to owners who own three or more properties.

[2] Those which were subjected to the Verification and Validation Process of the Department of Water and Sanitation.

Table 6: Distribution of Property ownership

Number of properties	Number of owners registered
1	286
2	99
3	52
4	40
5	16
6	13
7	10
8	13
9	4
10	1
11	2
12	2
13	3
15	1
16	1
20	1
21	1
Total	**545**

1.4 Land reform to date

Land reform has been very limited in Matzikama. According to the information Phuhlisani has been able to acquire, the following table shows that only 1% of land has been transferred through the redistribution programme, and if restitution and TRANCRAA (only those that are already concluded[3]) then just 3% of agricultural land in the municipality will have been transferred after 25 years. As can be seen from the table below, some of the land acquired through land reform has been sold back into the land market. Informants are not always clear about the mechanisms through which land was acquired and beneficiaries identified. At the point of writing, despite persistent attempts to secure an interview, we had not been able to obtain essential information from the Department of Rural Development and Land Reform in the district.

1.4.1 Land acquisition in Matzikama

Table 7: Land acquired through the land reform programme in Matzikama

Detail	Total land acquisition - all land reform. (Ha)	Total land acquisition - land redistribution. (Ha)
Redistribution	15 070	15 070
Sold	682	682
Current redistribution land	14 388	14 388
Restitution land	4 519	
TRANCRAA land	18 000	
Total land acquired through land reform	36 907	
Total hectares in Matzikama	1 298 100	1 298 100
Percentage land redistribution	**3%**	**1%**

As can be seen from the table above, when all forms of land reform are combined just 3% of available agricultural land in Matzikama has been transferred through land reform. Of this only 1% has been acquired through the redistribution programme.

[3] Only Ebenhaeser

1.4.2 Land reform projects - past and present

Table 8 below provides basic details of the land acquired through land reform in Matzikama Local Municipality. A more detailed table is provided in Annexure 1.

Table 8: Properties acquired through land reform in Matzikama inclusive of those which were subsequently sold back on the market. Figures have been rounded up.

Farm/ Project name	**Hectares Acquired**	**Land reform programme**
Luiperdskop	7 043	SLAG
Goedemoed/ Olifantstrust - sold	50	Share equity
Eikevlei Roomsekamp	2	SLAG
Vredendal Saamwerk Boerdery	22	Municipal Commonage
Alfalfa Boerdery Trust - sold	437	LRAD/Share equity
Eikevlei Community Trust - sold	195	SLAG
Griekwa Burger Boerdery	1911	LRAD
Bitterfontein	2 051	PLAS
Troe Troe no.259	1 767	PLAS
Olifantsrivier Nedersetting	1592	PLAS
Ebenhaeser Land Claim (Phase 1 - 2008)	102	Restitution
Ebenhaeser Community Land Claim (2016)	422	Restitution
Apostoliese Geloofsending Kerk (Klawer)	5.0	Restitution
Beeswater Community Rural Claim	3 990	Restitution
Ebenhaeser TRANCRAA	18 000	TRANCRAA – Tenure reform
Total	**37 589**	

1.4.3 Assessment of current institutional arrangements for land reform initiatives

Overall, it appears that land reform implementation in Matzikama has generally been poorly co-ordinated, with the different actors having some knowledge of the others' projects, but limited joint planning and implementation happening between the five key state players – DRDLR[4], Land Claims Commission, Department of Agriculture, Department of Human Settlements, Water and Sanitation and the Matzikama Municipality[5].

1.5 Small-scale farming sector

The small-scale farming sector in Matzikama includes a relatively small number of producers operating at different scales and in different land settings. People are involved primarily in livestock and vegetable production on municipal land, other state land, land reform land and privately owned land.

The majority of producers operate on a very small-scale selling irregularly, primarily through local informal markets. A minority of larger, established small-scale producers produce for formal markets with a variety of produce including wine grapes, vegetable seed on contract, tomatoes, sweet potatoes, pumpkin, peppers and cucumbers grown in tunnels. However, while there are some younger, dynamic and entrepreneurial market-oriented small producers, many of this cohort are advanced in years and it is not always clear

[4] At a national level the Department of Rural Development and Land Reform and the Department of Agriculture were recently amalgamated. However, what this means for practical day-to-day operations, planning and management has yet to be clarified. Complications prevent easy institutional amalgamation, particularly given that land is a national competency in terms of the constitution while agriculture is a concurrent national and provincial competency.

[5] More recently there has been some collaboration and coordination between some of the parties around the large and higher profile Ebenhaeser Community and its development but even this is limited.

whether there has been a transfer of skills to other family members to ensure continuity in production when they are no longer able to farm.

1.5.1 Ebenhaeser

The community consists of about 2500 people who live on land that is currently state land, but which will in the near future, be transferred to the community's Communal Property Association which will own it on behalf of the community.

The forebears of the Ebenhaeser community lived in the area prior to European colonization. In 1837 the received the first formal land rights in terms of colonial law. They lived on two farms which bordered the Olifants River, near to the current town of Lutzville. The land was managed by missionaries – first of the Rhenish Church and then of the Dutch Reform Church.

In 1925, as a result of the Ebenhaeser Exchange of Land Act, they were dispossessed of the land adjacent to the river at that point and were forcibly resettled on land further away. The land that they were removed from was then transferred to poor whites and irrigated with the building of the canal system.
There were 150 households which were moved. Subsequently an additional three households obtained registered rights in land. These 153 households obtained rights to a house plot, an irrigated plot of 1.6 hectares, a right to communal grazing and, originally, a right to a dryland sowing plot. These land rights were transferred to their successors as each of the rights holders died, moved away or otherwise relinquished their rights.

The residents of Ebenhaeser were located at the very end of the irrigation canal system. This system has never worked properly. A combination of structural problems and water allocation management inadequacies has, together with other factors has contributed to the limited use of the irrigable land at Ebenhaeser.

153 Ebenhaeser farmers have formal rights on the irrigated, arable land where they are farming at different levels. Currently only that 32 of the 153 plots are cultivated (22%). Farmers working this land produce wine grapes and vegetable seed, while others produce lucerne. Many other rights holders are unable to use their land and water due to a variety of reasons. These include erratic water supply, lack of capital, infrastructure, expertise and secure access to markets. As a result, 78% of potentially productive land lies fallow.
The Department of Rural Development and Land Reform and the Provincial Department of Agriculture are currently in the process of putting in a high-tech irrigation scheme which will provide the water allocations to each of the 153 plots under pressure. While the improved water allocation system is to be welcomed there has been inadequate profiling of the rights holders to arrive at a participatory assessment as to whether they will be in an economic position to farm the land and make use of the water once this becomes available.

There is some 16 726 hectares of grazing land available. Grazing rights are also subject a tenure reform process in terms of the Transformation of Certain Rural Areas Act (No. 94 of 1998) – TRANCRAA. The community has decided that this land should be handed over to the CPA and held on behalf of the community. The community has also agreed on a set of tenure arrangements for the different portions of land, but this must still be implemented.

A land rights enquiry (Phuhlisani NPC 2015) identified a total of 161 livestock owners grazing stock on 16 726 ha of grazing land. Of these 64 (39.75%) have legally recognised grazing rights and grazed 1232 sheep and 112 cattle between them. An additional 97 livestock owners (62.25%) grazed their stock without being allocated formal grazing rights and their combined herds amounted to 1359 sheep and 63 cattle. Together the total stock grazed at Ebenhaeser by formal and informal rghts holders was 2591 sheep and 175 cattle.

The Department of Agriculture (Western Cape) recommends that given the current state of the grazing land the stocking rate should be calculated on the basis of 10 hectares per small stock unit (SSU). According to these figures the current livestock grazing on the 16 726 ha total 3749 ssu. This suggests that in 2015 there were more than double the number of animals on the land than the rate recommended by the state.
In 1996 the Ebenhaeser community submitted its claim to the land from which it was removed in 1926. After many years of engagement with the state and land owners, a first phase settlement agreement was signed in June 2015. This returned 13 farms and also provided a limited amount of development capital.

It was originally asserted by the Department that the development funds agreed to in the Settlement Agreement for these restitution farms must come from Recap. However, Recap money was promised but not provided, so the CPA got land without adequate equipment or operational funding. Subsequently, some funds were obtained from the Department and the farming has been able to proceed – trying to recoup the losses and damage to the vineyards as a result of the lack of resources (and the drought) in earlier periods. Currently these farms are farmed as a single unit and managed as part of a 20 year agreement with Stellar Organics. This agreement has created a large-scale farming operation – one of the largest in the valley, even before the remainder of the claimed land is acquired through further process of negotiation which may be resolved in 2020.

1.5.2 Other small-scale farmers in Matzikama

In total Phuhlisani interviewed 16 individual small-scale farmers/ group representatives interviewed from the different towns in Matzikama – Doringbaai, Ebenhaeser, Koekenhaap, Lutzville Wes, Vredendal, Klawer, Van Rhynsdorp, Rietpoort, Stofkraal, Molsvlei and Bitterfontein. All but one of the respondents had been operating in the area for at least 10 years. There are at least 5 additional groups or individual farming operations that Phuhlisani was unable to interview – a number of these on private land. The table below provides the basic information on the different groups. A more detailed table including the products they produce is found in Annexure 2. Together these groups and individuals total 418 members. Of these, 223 (53%) of these individuals are those who live on TRANCRAA land.

Table 9: Small scale farmers at a glance

Name of group/town	Number	Land on which they farm
Van Rhynsdorp - vegetables	2	1 ha Municipal land located within the town
Van Rhynsdorp - livestock	Unknown	On municipal land near sports ground and sewerage works
Klawer	40	3.5 ha – municipal land
Vredendal Klein boere	35	314 ha without water and 22ha with 10ha water rights. Municipal land – 9 years 11 months lease.
Klipsweet Boerdery	8 active	Rent Griqua land reform land - Zoetvlakte. 1900ha
Lutzville Wes	14	Occupy FALA land near Lutzville Wes without permission.
Uitkyk Lutzville	15	In kraals and on adjacent Municipal land – leased.
Koekenhaap	6	In kraals adjacent to their houses, not clear whose land
Gert “Pit”	1	Has access to 4.5 ha of State land – FALA. But no water so he uses a local commercial farmer’s land – Joint Venture
Vuyani Charlie	7	Access to 27ha water on 1592ha land leased from the State at 6% projected turnover. 30 year lease. PLAS.
Doringbaai	1	819ha of FALA land next to Ebenhaeser. Also rents land from a white commercial farmer in Doringbaai area.
Ebenhaeser farmers	153 rights holders	In total about 18000 ha. Each rights holder has access to about 1.67 ha land and water, and communal grazing. Land will become CPA owned land. AgriPark FPSU in 2020
Rietpoort, Molsvlei and Stofkraal	70	Act 9 land which has an overlapping land claim on it. In total 15003 ha. It straddles Western and Northern Cape.

Name of group/town	Number	Land on which they farm
Beeswater	46 families	4000ha – brackish water
Bitterfontein PLAS	2	PLAS land - a 2000ha farm with 30-year lease with option to buy -rental of R17500/annum.
Troe Troe	1	PLAS land - A 517ha cultivation area with grazing - boreholes electricity dependent. An additional 1250ha farm with natural grazing. A 30-year rental agreement.

1.5.3 Location, land and water

The table above reveals multiple ways to access land:

1. Municipal land and commonage: Van Rhynsdorp farmers (both groups), Klawer, Van Rhynsdorp, Vredendal, Lutzville;
2. Private land: Koekenhaap (unauthorised occupation);
3. State land (Department of Agriculture FALA land): Doringbaai farmers, Lutzville Wes and Koekenhaap farmer.
4. Restitution land: Beeswater;
5. Redistribution land: Griqua land, Van Rhynsdorp, Koekenhaap;
6. TRANCRAA land: Ebenhaeser and Rietpoort.

The key constraint for all farmers is the lack of rainfall and the associated access to water. Only Ebenhaeser (the 153 plots), the Koekenhaap redistribution farmers and the Vredendal commonage farmer have access to water from the canal system. While the proposed new water expected from the raising of the Clanwilliam dam wall is in the order of 6000 hectares, the constraint in the canal itself (and thus the ability of getting the water to the lower reaches of the Olifants River valley) will put a limit on the extent of the allocations of water in these areas.

1.5.4 Land allocation

The following seems to be the different practices regarding the allocation of land:

- In Ebenhaeser, there are different large camps and each camp is divided into 4-5 smaller camps – ostensibly for rotational grazing. These camps are all full however, so no rotational grazing happens. Farmers are allocated rights to graze their stock in a particular camp and are generally restricted to that camp. There has been some elite capture in some of the camps where some farmers have restricted other farmers from entering their cluster of camps.
- In Rietpoort, farmers arrange amongst themselves that they can access land in a particular area – there is no agreed authority structure. The farmers in the different parts of Rietpoort – Rietpoort, Molsvlei, Stofkraal and Lepelsfontein generally only graze their stock in their areas.
- In the commonage and municipal areas while the land is allocated by the Municipality, the lease is signed by the group, the allocation of the land to the individuals tends to be undertaken by the group. Most often the group is organised into an association of some kind under the control of a chairperson and other committee members.
- On PLAS farms the lease is generally signed off by the principal in the group, but the land is generally used jointly.

1.5.5 Production systems

Most of the farmers on the municipal land and the TRANCRAA land practice a system of farming where the animals all graze on the common grazing areas but are looked after separately – it appears to be uncommon for farmers to use a shepherd for the joint herd and only in one case did the group talk about their farming as a cooperative. This approach of individual production was similar on the cultivated lands – except for Klawer where lucerne is cultivated for the collective.

On the redistribution farms, farming arrangements have largely remained as they were, where the farm is kept and farmed as a whole – a collectively managed herd, collectively managed vineyards or tomato production and so forth. In these contexts, it appears that there is a key person who acts as the manager.

Access to machinery and equipment has been limited until recently – with delays in farmers being able to access such resources through the DRDLR, DoA (CASP) and through the municipality. The setting up of the AgriPark Farmer Production Support Unit in Ebenhaeser could have an important impact on those seeking to the farm in the area around Ebenhaeser, assuming that this operates effectively and sustainably. However, the track record of mechanization centres to date suggests that challenges will be faced.

The following activities of the arable farming are mechanized: ripping and ploughing; lucerne harvesting and planting; wine grape harvesting; tomato planting; seed planting. The following activities, however, are generally manually undertaken: tomato picking; grape picking in certain cases – at Ebenhaeser high density plantings; seed harvesting.

1.5.6 Characteristics of successful small-scale producers

There was a strong emphasis on livestock farming as opposed to arable production in the responses as this reflects the dominant agricultural activity for most small scale producers in Matzikama. A minority of smallholder producers prioritised access to land and water for production (43, 8%). Small producers who were interviewed highlighted the following characteristics of the larger and more successful smallholder producers:

- they have more than 50 small stock units (93, 8%);
- their land rights are secure (93, 8%);
- they have veterinary knowledge (93, 8%);
- they have livestock farming knowledge (87, 5%);
- they have access to loan finance (87, 5%);
- they own a bakkie (81, 3%);
- they are members of an active farmers' association (81, 3%);
- there is boundary fencing for their livestock (81, 3%).

The interviews and focus groups categorized larger livestock farmers as having more than a hundred stock. It was also highlighted however that stock theft is a significant risk and problem. Less than half of the respondents identified access to arable land and water as a characteristic of a successful producer – presumably because other than Ebenhaeser rightsholders and those with access to municipal commonage land there is limited vegetable and crop production taking place. This suggests livestock production has much lower barriers to entry than irrigated crop production.

1.5.7 Markets/marketing

Smallholder producers who were interviewed identified the most common ways to market their produce. The majority (81, 3%) indicated that they sell their produce within the community and the surrounding areas. The next most common marketing arrangement was through direct sales to bakkie traders who purchase at the farm gate (62, 5%).

Tomatoes

There is a market for salad tomatoes through two routes – a contractor who is based in Vredendal and who supplies the different markets in the Western Cape and then a system of refrigerated trucks from Durban that source tomatoes in the area and drive them to Durban. Most small-scale tomato producers however produce for the local tomato factory which processes the tomatoes in different ways – a Tigerbrands owned factory.

Wine grapes

There are a number of cellars in the area which have variously been trying to engage black farmers for the production of grapes. Currently, small-scale farmers are supplying the Lutzville Cellar and the Namaqua Cellar in Vredendal. Stellar Organics sources wine grapes from the Ebenhaeser Company farm.

Lucerne

The lucerne that is cultivated by small-scale farmers is either used themselves for their own stock or it is sold. The sale of lucerne is to other small-scale farmers as well as into the broader informal market of white commercial livestock farmers. In the past there was a processing factory locally which made Lucerne pellets, but this no longer exists.

Vegetable seed

The international seed producing company Syngenta operates in the area and most of the seed produced is marketed through their very tight production and marketing contract farming system.

Sheep

The markets for sheep appear to be varied. A relatively large volume of sheep appear to be purchased as live animals by local community members – one of the farmers indicated that he thought that the price they got from local community members was better than that they got from the abattoirs. A second market for sheep is individual white commercial farmers who are reported to buy up sheep from small-scale farmers, fatten them and then sell them on to the butchers, or to the abattoirs. A third route is the agents of the local abattoirs and those from further afield which go to farms to source livestock directly and then deliver these to the abattoirs in Vredendal, Calvinia and Hermon. The final route is where the farmers take their animals directly to the abattoir. However, according to the abattoir in Vredendal just 2% of their meat is sourced from small-scale farmers. It has not been determined in this study what proportion small-scale farmers contribute generally to the Matzikama livestock market – the market being both the formal and informal.

Vegetables

The marketing of irrigated vegetables depends on what is being grown and how/where this is marketed through an outgrower scheme or offtake agreement. Some small-scale producers have been assisted by the municipality to make use of hydroponic systems to grow cucumbers. Larger scale commercial producers like Stellar Organics grow certified organic pumpkins for export. Other vegetable producers either sell locally through Up to Date.

1.6 Support

1.6.1 Department of Agriculture Farmer support

The Provincial Department of Agriculture is responsible for the Farmer Support and Development Programme which is delivered through three directorates and an implementing agent: farmer support and development; extension and advisory services; food security; and CASIDRA. Staff operate from eight regional offices across the province, including one based in Vredendal.

Farmer Support and Development Directorate

This provides farm assessment reports for land reform, farm plans to enable sustainable use of natural resources and support to smallholder and commercial farmers.

Extension and Advisory services

This provides farmer's days, information days, skills audits and mentors who are appointed through the commodity approach and funds from CASP.

The Vredendal office for the West Coast district comprises has the following staff: a district manager; one specialist agricultural adviser; three senior agricultural advisers, including an agricultural economist and a pomologist; a dedicated agricultural adviser allocated to Ebenhaeser.

This directorate also works to promote homestead, community and school gardens and conducts food security awareness campaigns.

Casidra

This is a Western Cape parastatal which is responsible for project implementation and physical infrastructure delivery to farmers based on approved business plans. Due to budget limitations about 30 projects are

supported annually. Casidra reports that it has developed a web-based management information and procurement system to manage and monitor progress of supported projects. Casidra focuses on a defined listing of commodities and funds are allocated through commodity project allocation committees (CPACs) in the following areas: viticulture; vegetables; beef; ostrich products; piggery; aquaculture; seed production; and citrus.

Casidra supports a community household foods programme providing community and household gardens with tools and production inputs. It administers a mechanisation scheme comprising 72 tractors and equipment allocated to 67 small farmers in different contexts. It also provides a land reform assistance team. Casidra also supplies support for the rollout of the Department of Agriculture's farmworker development plan. Many of those interviewed highly rated the quality of support provided by the PDoA but there remain substantial barriers to access to timeous support due to limited capacity in the PDoA.

1.6.2 Department of Rural Development and Land Reform support

A master plan has been prepared for the establishment of an Agri Park in the West Coast District municipality (DRDLR, 2016). Originally it was envisaged that agri-parks would be rolled out in all 44 districts. However, since then there has been a substantial scaling back.[6] The DRDLR was reported to have prioritised Agri Park implementation at Ebenhaeser and Doring Bay for the 2017/18 financial year (DRDLR, 2017). The proposal contains three components.

An Agri Hub Unit

This is defined as a "production, equipment hire, processing, packaging, logistics, innovation and training unit that is located in a designated town within a district" (DRDLR, 2017)

On paper the Agri Hub has developed elaborate plans including

- the development of an abattoir linked irrigation pastures with a capacity for and 50 cattle, 800 sheep, 500 goats and a hundred pigs per month;
- an animal feed production plant receiving Lucerne from various sources;
- input supplies;
- a mechanisation centre;
- collection services;
- offices for extension and veterinary services.

A Farmer Production Support Unit

It is envisaged that this will be responsible for "primary collection, some storage, some processing for the local market, and the extension services including mechanisation" (DRDLR, 2016: 14). A portion of land has been identified for the establishment of the FPSU at Ebenhaeser. The DRDLR Rural Development Plan states that "subject to the necessary production levels" production support services will include a small produce handling facility, a mechanisation and repair centre collection services linked to the mechanisation's centre a local market facility, an input supply facility and a small meeting and Internet facility. The document does not appear to indicate how this will be funded and sustained over time.

[6] In October 2018 DDRLR presented on Agri-Parks to the Parliamentary Portfolio committee. It reported that 23 agri-parks (out of 44) are currently under various stages of development with the objective of them being completed by 2019/20. Four agri-hubs were partially operational. Nine agri-priority districts had been identified and one, R1,3 billion had been invested since 2015 with a further R1.4 billion allocated towards completion. The presentation noted that the required funding to rollout the programme in every district was a major challenge with budget cuts being made to the DRDLR infrastructure build programme.

According to the Rural Development Plan, FPSU catchments have been identified based on a 30 km distance along existing road networks. A farmer support unit was also conceptualised for Bitterfontein focused on small stock and medicinal and culinary herbs.

A Rural Urban Market Centre Unit

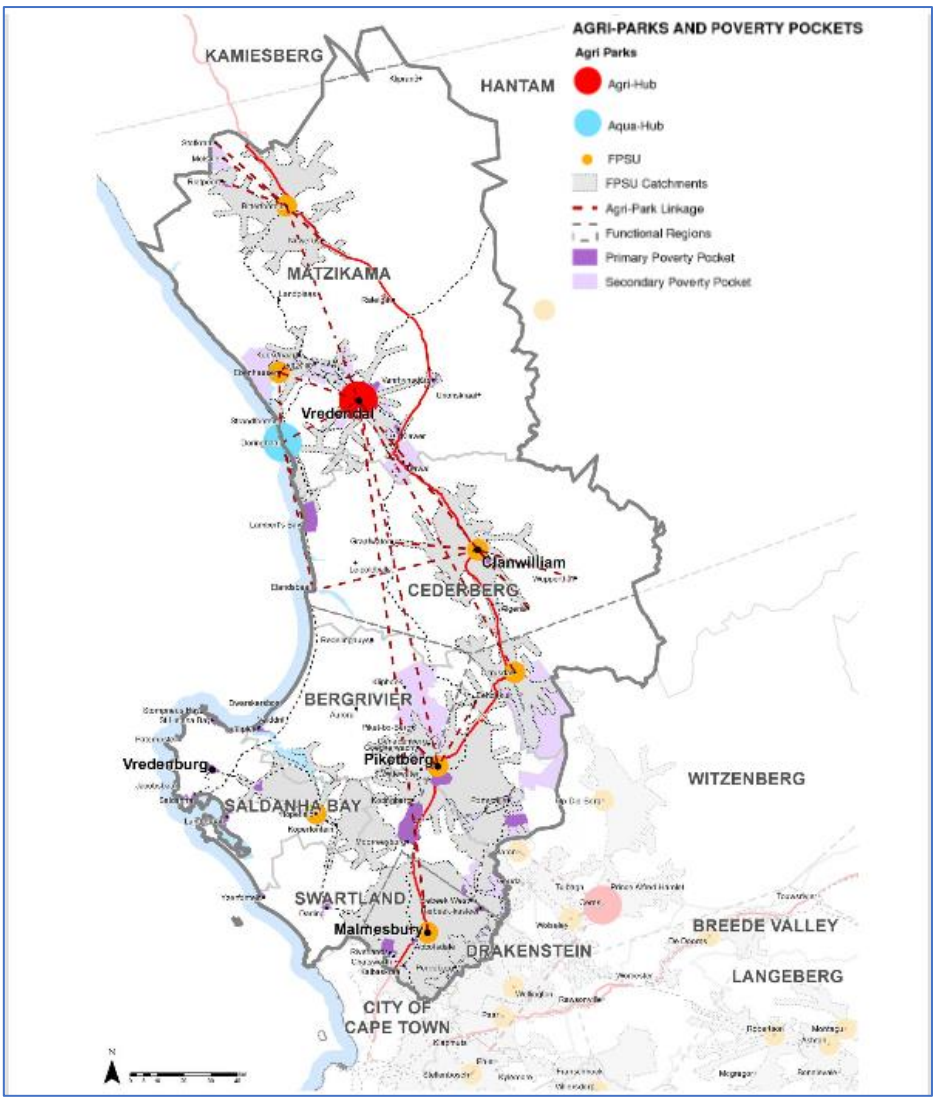
The Agri Park is supposed to be operationalised through the District Agri Park Operational Task Team (DAPOTT) which draws on representatives from the three spheres of government. This is supposed to be supported by the District Agri Park Advisory Committee in which is intended to play the role of a consultation structure which brings together commercial and smallholder producers "to oversee the planning and implementation of the Agri Park" (DRDLR, 2016: 54).

The Agri Park situation analysis recommends the following organisational model so that targeted beneficiaries namely black farmers can successfully participate in the Agri Park business:

- establishment of a company/ideally cooperatives to register farmers organised in each local municipality within the district;
- a holding company to be registered that will operate all commercial activities within the district Agri Hub – "this implies that farmer owned companies will share the ownership of the holding company - where the density of farmers per local municipality may suggest inequitability, a formula will be derived that will satisfy all the participants";
- The holding company will enter into a formal legal agreement ideally a long-term lease with the district and local authorities for operating and managing public agricultural land and infrastructure resources.

Questions remain about the feasibility of this model and the extent that it is grounded in local realities. The report further recommends that targeted beneficiaries be provided with a "intensive fast track technical support so that they can be effective participants and beneficiaries of Agri parks". How this support is to be provided is not identified.

Figure 5: DRDLR Agripark establishment logic



1.6.3 The Matzikama Local Municipality

The support to the small-scale farmers provided by the Municipality comes through their Local Economic Development (LED) Unit. This Unit includes the director and one project officer, and it is therefore very stretched in its ability to provide support.

The LED unit is very involved in seeking ways to stimulating different aspects of the local economy which will have direct and knock-on effects on small-scale farmers options. It has undertaken the following thus far:

- It has provided financial and equipment support to a tunnel farming venture in Vredendal which involves a commercial farmer on land leased from that farmer at a nominal rate.
- It has stimulated the research and development of an Abalone farming initiative in Doringbaai. If this is successful, the abalone will require feed which is anticipated to be soya. The location of Ebenhaeser nearby, with a newly implemented irrigation system, means that the Abalone farm could be a close and direct market for the Ebenhaeser farmers.
- It has worked with a farmer and wool processor in the Bitterfontein area to establish a wool processing plant in the area which is anticipated to require the wool of 4000 sheep from small-scale

farmers – 6000 from established commercial farmers. The limitation for the municipality is the size of the unit.

In the event that the extent of commonage is increased through the land reform programme, where the municipality is the overarching manager of the land and supports the farmers in collaboration with the Department of Agriculture, additional municipal staff are going to be required which the Municipality is currently unable to afford.

1.6.4 NGOs: Surplus People Project

SPP promotes agro-ecology as a strategy for adapting to and mitigating climate change. The agro-ecology working group speaks of the multiple benefits of agro-ecology in which livelihoods and diets have been improved through diversifying food production and the inclusion of medicinal plants. SPP is focusing on water harvesting and the use of local knowledge to include veld plants with medicinal properties for the treatment of livestock. SPP highlights aspects of the solidarity economy, self-organised exchanges and peer learning between producers in different areas.

SPP has played an important role in the municipal area in supporting the farmers associations. They work closely with the municipality in the development of constitutions for the associations and in the methods to manage these. In addition, SPP organises information sessions on different aspects including farming practices, land reform developments and on organisational management. SPP only has one member of staff that is responsible for the Matzikama municipal area.

1.7 Land demand/needs

The SDF highlights access to land for food security needs and potential linked to:

- existing commonages at Lutzville and Vredendal, including the possible extension of such commonage areas;
- the need for commonage acquisition at Vanrhynsdorp, Klawer, Doring Bay and Koekenaap;
- existing state land suitable for land reform projects (e.g. agriprocessing) in proximity to settlements;
- existing settlement areas at Nuwerus, Bitterfontein, Kliprand, Rietpoort, Stofkraal and Molsvlei, including acquisition of commonage areas for settlements outside the Rietpoort Act 9 Area.

The SDF also highlights the need for:

- off-farm settlement for farmworkers in all existing towns and rural settlements;
- monitoring of tenure rights and need for “off-farm” settlement in the Troe-Troe River and Urionskraal area, with options for such settlement in Vanrhynsdorp or a future agri-village within the agricultural area;
- TRANCRAA processes to clarify land rights in the Rietpoort Act 9 Area, including Rietpoort, Molsvlei and Stofkraal;
- off-farm settlement for farmworkers in all existing towns and rural settlements (e.g. in agri-suburbs).

It is difficult to quantify land demand and need without a more detailed study – the responses to the question about who wants land were clearly that “everybody wants land”. A further difficulty is that those that might want or need land generally identify or express that want or need in terms of their current circumstances. Nevertheless, an estimation of land demand will be developed in a second iteration of this study starting from the existing use of land by farmers.

1.8 Large-scale commercial farming sector

1.8.1 Production systems

Most farming on the large-scale commercial farms has been undertaken employing high-tech, and increasingly mechanized production systems.

Linked to the trends in the land size and ownership shown above, the majority of farms in the area tend to be managed by the single owner, with other family members playing a role in the business at and administration and financial management level.

1.8.2 Commodities

Wine grapes have been the dominant form of production on irrigated land. However, the low price of wine has meant that net profit has declined and this has led to some shifts in production. Over the last ten years there has been increasing production of table grapes as well as dried fruit - particularly raisins and currants. There is also production of vegetables including tomatoes and cucumber, vegetable seed on contract, pumpkins, lucerne and other fodder crops. There is some recent experimentation with growing of pecan nuts and berries on a small scale.

According to the Aurecon report the following is the current range of commodities in the key irrigated area of the municipal area[7] - wine grapes are clearly dominant by far in the irrigated area.

Table 10: Hectares of different crops on land using LORWUA water

Crop	Hectares in Matzikama area from LORWUA canal	Proportions
Table Grapes	835	6%
Wine Grapes	10973	85%
Vegetables	970	8%
Fruit	150	1%
Total	**12928**	

More broadly, the Western Cape Department of Agriculture's survey in 2013 provided the following detail regarding all planted land in the municipal area – irrigated and dryland, and irrigated from the Lower Olifants WUA system or from ground water.[8]

Table 11: All planted land in Matzikama

Rank	Area (Ha)	Percentage	Crop	% of WC
1	35161.2	35%	Planted Pastures Perennial	14.8
2	27153.9	27%	Small Grain Grazing	14.3
3	10569.4	11%	Wine Grapes	9.8
4	6590.5	7%	Fallow	7.4
5	5880.5	6%	Rooibos	16.3
6	4816.4	5%	Natural grazing	4.4
7	2741.8	3%	Weeds	8.4
8	1165.5	1%	Oats	27.7
9	1143.3	1%	Wheat	0.4
10	1027.5	1%	Table Grapes	8.1
	4237.2	4%	Balance	
	100487.2		**Total**	

With regard to livestock, sheep are by far the dominant animal farmed. According to the Department of Agriculture AgriStats site[9] the following is the break down in Matzikama:

[7] Drawn from Table 5.3 in Aurecon report, page 34

[8] Drawn from the tables provided on internet tool at http://www.elsenburg.com/gis/apps/agristats/

[9] http://www.elsenburg.com/gis/apps/agristats/

Table 12: Livestock in Matzikama

Type	Number	% of WC
Cattle	1083	0.3
Goats	2815	1.8
Horses	53	0.4
Ostriches	0	0.0
Pigs	88	0.1
Sheep	61721	3.8

1.8.3 Markets/marketing

Markets and marketing are commodity specific. The majority of the local wine grape producers sell to the local cellars. Some commercial producers are involved in boutique wine making and distilling of other alcoholic beverages.

Fresh produce is sold locally, via the Cape Town Fresh Produce Market or on contract to national supermarket chains. In a few instances produce is for export as in the case of table grapes and Stellar Agri's production of certified organic pumpkins for European markets.
Livestock is sold on auctions and directly to abattoirs, butcheries and meat processing plants.

1.8.4 Role in land and agrarian reform

As can be seen from the history of land reform in the local municipality discussed above some commercial farmers have ventured into share equity schemes or have leased land to small producers. In almost all instances the equity share schemes have collapsed and workers have received very little, if any benefit. There are several ongoing empowerment initiatives on commercial farms with varying levels of success. Key ones in this regard are the following:

1. Stellar Empowerment Trust is a joint body of which all farmworkers on the Stellar multi-estate are beneficiaries. The Trust towns 26% of shares in the Stellar winery. The Stellar Empowerment Trust is owned by the workers of Stellar winery as well as the workers from all the production units. In addition, Stellar Agri is a development project focusing on empowering employees of Stella winery. This BEE company farms for its own account with organic fairtrade grapes on land leased from Stellar and sells their grapes to Stellar winery at market-related prices. Stellar Agri has a 26% shareholding in Stellar winery and 63.74% direct shareholding in the Stellar Empowerment Trust.
2. Lutzville Vineyards has initiated an empowerment programme where the workers in the winery are drawn into the ownership of land which will be farmed to provide grapes for the winery. Lutzville Vineyards has entered into an agreement with the Co-op in the UK which is the biggest retailer of Fairtrade wine in the world. The agreement will see the vineyard convert its wines to Fairtrade standards, with fair trade premiums benefiting the workforce.
3. There are various joint ventures where individual farm owners (in some with municipality support) have enabled some, or all of the workers to obtain shares in the business, or where they have gone into a joint ownership of a new business.

The researchers did not have enough time to undertake a critical review of the workings of these initiatives, or to interview workers who serve on the management structures of the BEE companies. Like all empowerment schemes of this nature questions remain concerning the long-term benefits to workers and the opportunities that may be built in for small-scale farmers.

1.8.5 Farm labour

In thinking about the opportunities for employment intensive agriculture it is worth reflecting on the different perspectives emerging from the interviews on agricultural employment trends in the Matzikama Municipality.

Perspectives of commercial farmers

Commercial farmers interviewed confirmed the national trend towards fewer skilled permanent workers living on farms but noted an increasing preference for the employment of workers from other provinces or countries in southern Africa such as Namibia and Zimbabwe. There is also an increasing reliance on casual and seasonal work on farms.

Respondents identified the following trends

- the employment of fewer more skilled permanent workers;
- an increase in the employment of workers from other countries in the region;
- investment in mechanization;
- increased use of casual and seasonal workers.

One informant highlighted the factors impacting on the employment of labour in the wine grape sector

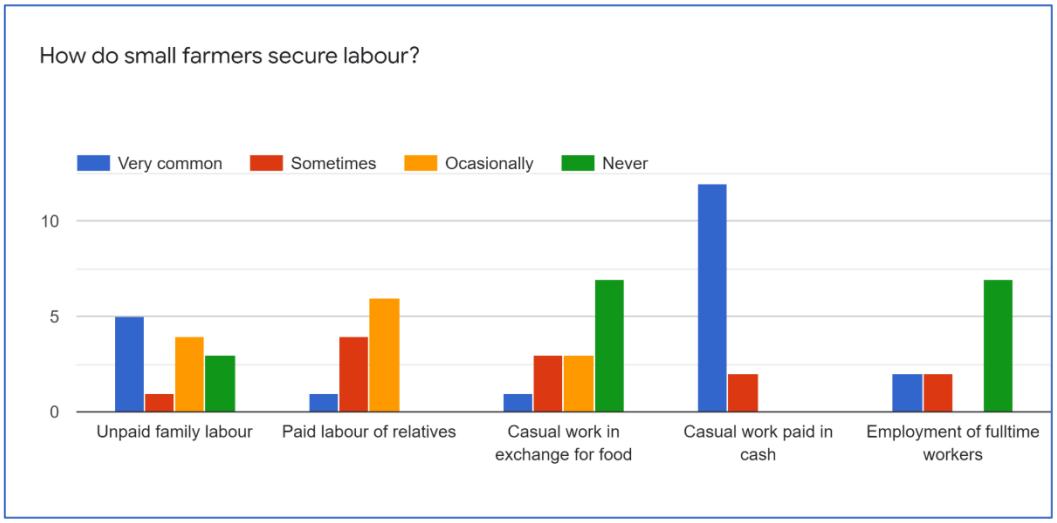
> *Two weeks ago, we tried to appoint forty permanent workers. We could have only hired two. Thirty-eight of the forty tested positive for drugs. Tik, dagga, mandrax crokodil. This is a huge social problem in the area. Unlike most farmers we have more permanent workers employed now than before. Some live on the farm but most live in town. They commute to work daily.*

According to this informant "one or two farmers have chosen to hire a lot of illegal immigrants as workers. Farmers want to pay less for more work being done. Local farmers often don't want to employ coloured people who are often not seen as that strong and are often considered to be lazy."

Perspectives of small producers

Small producers interviewed were asked about how they source labour. Informants indicate that this is primarily in the form of casual work paid in cash, coupled with the unpaid labour of the farmer or members of their family.

Figure 6: How small producers employ labour



1.9 Settlement patterns, local food demand and markets

1.9.1 Matzikama towns and villages[10]

Vredendal (population 18,170) is the most developed and densely populated town in the area acting as a service centre for agriculture. It reportedly faces a large housing backlog and water resource management challenges.

Klawer is surrounded by many farms and has an economy dominated by agriculture and some tourism including local agri tours.

Vanrhynsdorp (population 6273) is an economy based on the agricultural and services sector. The ecology of the area makes it home to a range of indigenous medicinal plants which present possible economic opportunities.

Doring Bay (population 1260) is characterised as a high needs and low development town where livelihoods have been adversely affected by the decline in the fishing industry. Unemployment rates have risen to 85%. Potential for economic growth appears limited to aquaculture.
An abalone farm has been established by the municipality in partnership with the Department of agriculture. Casidra, the implementing agent for PDOA reports that this is an equity project where employees only 60% of the shares. The project was established with CASP funding and in 2018 was reported to be raising 750,000 abalone, a high-value mollusc which takes between eight and 10 years to reproduce and reach the designated legal fishing size.

The IDP contains very ambitious forecasts for this enterprise projecting that once both abalone farms reach full production a total of 2600 jobs will have been created in and around Doring Bay and that "the development is poised to completely eradicate poverty" in the area. There was insufficient time allocated to the research to be able to interrogate these figures more closely.

Strandfontein – a residential holiday resort which lacks economic activities.

Ebenhaeser and **Papendorp** (population 1305) are characterised by the IDP as having "virtually no intrinsic economic base and very little growth potential". The IDP states that limited agriculture on smallholdings and fisheries provide the local economic base. Ebenhaeser is ranked as a low human needs and low development potential town.

Lutzville West and **Lutzville** have a combined population of 5232. **Lutzville West** houses many seasonal and permanent farm workers employed by the surrounding grape farms. Overall, the area is characterised by very high unemployment rates.

Lutzville is an agricultural service centre and is located on the West Coast tourism route. The economy is linked to the wine industry, the annual agricultural expo and annual wildflower season. The town accommodates workers employed at Namakwa Sands as well as farmworkers. There are numerous irrigation farms in the area.

Koekenaap (population 1551) is a village surrounded by irrigation farms along the Olifants River. It serves as a modest agricultural service centre and has experienced no real economic growth. Unemployment and poverty are high. It functions as a dormitory town where people sleep, but work elsewhere. The town has experienced a sharp increase in population as a result of people relocating from the Eastern and Northern

[10] This section draws from the municipal IDP, the spatial development framework, the DRDLR rural development plan and studies prepared for the proposed development of an Agri-Park.

Cape in search of work. The human needs level for Koekenaap village is ranked at 131 - a marker of extreme poverty and urgent need for social investment.

Nuwerus, Bitterfontein, Kliprand, Stofkraal, Molsvlei and **Rietpoort** at a glance. These are small rural settlements. **Stofkraa**l and **Molsvlei** are characterised as representing a rural way of life with transport mainly provided by donkey carts. Goat and sheep farming as well as medicinal plants represent the main economic activity. **Rietpoort** is linked to the establishment of a Catholic mission in a very dry part of the country surrounded by small scattered rural settlements. It is a cross-border TRANCRAA area – part in the Western Cape and part in the Northern Cape.

Overall, West Coast District municipality in which Matzikama local municipality is located is characterised as a low growth potential area, although pockets of opportunity have been identified. The Department of Environmental Affairs and Planning (Department of Environmental Affairs and Development Planning, 2014: 38) asserts that all of the towns and settlements in the Matzikama municipality are categorised as either 'very low' or 'low' in growth potential. Moreover, it is evident from the discussion of each town above that the market for fresh produce is very limited given the numbers of people in the municipal area as a whole.

2 Analysis

2.1 Overview

The key features of Matzikama from an agricultural point of view are (, on the one hand, the very low rainfall across the whole municipal area and, on the other hand, the irrigation scheme which provides access to significant quantities of water along a narrow strip following the Olifants River. The anticipated increasing height of the Clanwilliam Dam wall further provides significant opportunities for expansion of land under irrigation and thus for land reform and employment – anticipated expansion of 6000 hectares of land under irrigation.

2.1.1 Smallholder farmers and land reform beneficiary capability

Table 10 above highlights the current situation for most smallholders in the municipal area. The key issues emerging from that table which have important implications for land reform and intensive employment strategies highlight that currently there are very few smallholders in the area, besides those at Ebenhaeser and a few others in that area. The individuals with existing skills in arable and livestock farming are therefore farmworkers in the different sectors.

This has significant implications for the success of land reform:

1. The limited skill set means significant support will need to be obtained for farmers either from the private sector or from the state – such support or oversight will need to be put in place in order to reduce the risk of failure, particularly if significant land reform is to take place as proposed below;
2. The limited existing resources of beneficiaries implies that access to land is not the only resource that will need to addressed – access to funds for operational costs (at least in the first period), access to on-farm machinery and equipment, access to transport for sources supplies and for getting product to market, and more.

2.1.2 Minimal land reform to date

The discussion earlier identified that very limited land reform has taken place in the municipal area. This means that for any targets to be achieved, and especially a target of 50% of the land, significant number of hectares will need to be acquired, including the area supplied by the LORWUA managed canal. This will be extremely expensive if purchased at current market rates and the risk of failure if the process is poorly managed is high. The lack of significant land reform in the municipal area to date has direct consequences for the cost and likely success of land reform in future. The projected additional costs required will make it

very expensive at this point. The impact of large scale land transfers on the municipality's rates base will also need to be calculated and an impact assessment made on the municipality' ability to deliver services.

2.2 Promising commodities, production systems and marketing strategies

2.2.1 Commodities

The Matzikama Municipality includes four key areas of production - the irrigated area along the River with the Lower Olifants Water User Association (LORWUA) canal system, irrigated cultivation using ground water, dryland cultivation and the extensive rangeland areas.

The promising commodities that emerge in the irrigated area are the following[11]:

1. Tomatoes
2. Vegetables – pumpkin, gem squash
3. Wine grapes - various types
4. Dried grapes
5. Animal feed production - primarily lucerne.

There are other possible commodities anticipated if other initiatives currently being supported by the Municipality come into existence:

1. Soya production for feed for an abalone farming operation in Doringbaai
2. Feed production for Tilapia – most likely soya.

In the extensive rangeland areas, the primary commodities are as follows:

1. Sheep - meat
2. Sheep - wool and meat
3. Goats

2.2.2 Livestock

Livestock is an important commodity to be considered in the Matzikama area. It already contributed 48% to the GGP according to the SDF and given the lack of rainfall, and so the limited possibility of cultivation, is an important option for the use of land in most of the municipal area. At the same time, however, the limited rainfall means that the carrying capacity of land is itself low therefore limiting the number of livestock that can be held on the land and so the viability of farming. So, while it is a very important commodity in the area it is severely constrained.

Production conditions and systems

The carrying capacity of the land, as noted above, ranges from the better quality rangeland in the south where the stocking rate is 5 ha per small stock unit, to low quality grazing requiring 12 hectares per ssu in different parts of the municipal area. A large portion in the north and west of the municipal area is estimated to have a carrying capacity of 7 hectares per ssu. Drawing from various interviews with farmers and officials, and taking the ongoing drought into account, it is taken that for analysis purposes the average carrying capacity of the municipal area is 9 hectares per ssu.

The recommended stocking rates for the land might be as above, but an additional factor that has to be considered in these areas is the quality of water for livestock. The Beeswater restitution community, for

[11] Vegetable seed is currently an interesting commodity produced by both smallholder farmers and white large-scale commercial farmers alike. It is interesting in that it has important support mechanisms built in and is based on a contractual arrangement which ensures a good quality crop, and a definite market. According to Syngenta, the company sourcing the product and providing the support, however, there are limitations on the ability to expand the area under production given the distance required between fields producing such products. The production of seed for Syngenta is therefore not taken into account as an option in this study.

example, has not been able to take occupation of their land in any significant way because the water is so brackish that the livestock cannot drink it.

There appear to be two grazing management approaches utilised in Matzikama:

1. A conventional approach which uses a standard grazing capacity measure to restrict the numbers of animals and which moves the animals to different camps in a controlled manner – the approach put forward by the Department of Agriculture and adopted by most commercial farmers in the area.
2. The approach adopted on the communal grazing areas where grazing is limited, and the land is grazed continuously at above the standard carrying capacity.

The use of carrying capacity as a measure for grazing control use is a subject of much debate. The Department of Agriculture sticks very closely to the standard measures of determining carrying capacity. The Department argues that:

> "*The farm's grazing capacity is an indication of how many animals can be kept there, while stocking rate is an indication of how many animals are kept there. If the farmer keeps more animals than his grazing capacity permits, the condition of the veld will deteriorate with the result that he can keep fewer animals over the long term."(Saayman, N. (nd)).*

In longitudinal research conducted in Paulshoek in Namaqualand by Timm Hoffman in the period since 1998, he found that the number of stock on the land was twice the number of stock than the recommended standard assessment of grazing capacity (similar to research conducted by Phuhlisani in Ebenhaeser and in the estimations made by interviewees regarding Rietpoort). In Paulshoek, as in Rietpoort and Ebenhaeser, the stock is not rotated – they graze in the same land through the year. The difficulty with overgrazing according to Hoffman[12] is that "it seems that many of the communal areas were heavily grazed in the past and, as a result, were transformed from perennial to annual floras, especially on the lowlands (plains)" and if this persists then it can reduce the capacity of the grazing significantly – especially with the increasing impact of climate warming.

Given these varying approaches, it is important to analyse the implications of the different approaches from a stocking rate and financial point of view which is undertaken in the Options section below.

What appears to be evident is that the current manner in which the land is utilised in the communal areas in the municipal area lacks long term sustainability as evidence cited above increases the possibility of land degradation and loss of grazing capacity. This will require improving the management of grazing land on redistributed land which takes into account the impacts associated with temperature change and related climate change impacts. This will involve a close interrogation of how grazing capacity should be calculated and measure to mitigate negative impacts. This could include improved monitoring indicators to assess rangeland health, long distance weather and temperature forecasting linked to the planned movement of stock dependent on the status of the grazing. How this management and support systems could be put in place and paid for is discussed further below.

There are different possibilities for the production systems with small-scale stock farming and the basic frameworks for these are discussed below. It was highlighted from the interviews undertaken with small-scale farmers and commercial farmers that most farmers operate as individuals and so any further developments with expanding options must be seen primarily as single owner enterprises, but not discounting the possibility that some resources will be shared.

[12] Personal communication

Marketing

Livestock farms in Matzikama are large and therefore are generally remote meaning that transport of livestock to market (abattoirs) is expensive and involves large trucks and trailers if it is done at any scale. There are two primary ways in which commercial farmers get their livestock to the abattoirs.

1) There are livestock agents which have arrangements with the three main abattoirs that seem to be supplied by the farms in the area. These agents come to the farms, negotiate prices and then take the stock off either to feedlots or directly to the abattoirs.

2) The Just Meat abattoir has its own trucks and trailers that it uses and fetches the animals directly from the farmers. It appears that very few commercial farmers take the livestock to market themselves.

The predominant marketing strategies for most livestock small-scale farmers, as highlighted in Table 10 above, are local sales in the community. In addition to this, there are some livestock agents that do source stock from small-scale farmers although it appears to be those farmers that are producing at a slightly higher level of quality. In addition, it is apparent however that there are informal markets that exist where livestock from small-scale farmers may be purchased by commercial farmers and other entrepreneurs who fatten the livestock and sell them on to the abattoir.

The local abattoir in Vredendal, Just Meat, says it only sources about 2% of its stock from small-scale producers. The low level of delivery of livestock sales to the abattoirs by small producers can be explained as follows:

1. In interviews with farmers it is was apparent that the price that farmers get when selling the animals in the local community is higher than they can get when taking the stock to the abattoirs.
2. The abattoir indicates that much of the livestock raised by land reform and small-scale farmers farms do not meet its standards in terms of quality and breed.
3. Small livestock farmers reserve more stock for self-provisioning than their commercial counterparts. For example, Hoffman found that the Paulshoek farmers consume about 12% of their total number of livestock on an annual basis.

In assessing the redistribution options proposed below, these factors would need careful consideration so as to not to impact on food security and employment in the formal livestock value chain as a result of a significant reduction in the numbers of livestock entering the system.

Basic financials and job implications

Drawing from the analyses of Hoffman[13], Dyason[14] and Conradie et al (Conradie, B, Landman, A. (2015)), the following is put forward as the financial and job possibilities for an alternative approach to livestock farming with land reform.

It is not clear from the research conducted thus far what the average size of a commercial farm is in the livestock farming area but, from available interviews it is assumed to be in the order of 9000 hectares. In the options below, it is proposed that a working unit of 3000 hectares be used in the redistribution of grazing land – either to be utilised as commonage for very small-scale farming (shared by 6 farmers), or to be used by more established individual livestock farmers. This analysis therefore uses a land size of 3000 hectares as the base unit. It identifies different ways in which this grazing land could be held and used.

The current estimations for commercial farmers are as follows:

Table 13: Commercial small stock costing at DoA approved stocking rates

[13] Leslie Hill Chair of Plant Conservation, Plant Conservation Unit, Department of Biological Sciences, University of Cape Town.

[14] Albertus Dyason, Livestock specialist, Department of Agriculture, Vredendal, Western Cape.

Current commercial farmer	**Numbers**	
Land Size		3000
Carrying capacity of land		9
So total animals		333
Ewes - 70 % of herd/flock		233
Lambing rate - 110%		257
Replacement ewes for those that died - 5%		12
Available for disposal		245
Sheep used for own use - 7.5%		18
Lambs for sale	227	
Price per lamb	R	1 100
Gross income	**R**	**249 288**
Number of jobs - 1 worker per 220 stock plus a portion of the farmer		1.9
Households benefiting		1.9
Cost of workers -@ R3169 per month	R	57 618
Other costs - R270 per ewe drawing from Conradie etal	R	63 000
Total costs	R	120 618
Gross profit	R	128 669

To develop financial estimations for land reform/ small-scale farmers, we have made certain assumptions which have a direct impact on the financial viability of the farming operation:

1. We have assumed that the lambing rate is lower than the current commercial farmers due to less funds being spent on the input costs, the breed initially being of lower quality, and higher mortality from predation. parasites and other factors. It is also assumed that livestock health and lambing rates will improve over time particularly for the single farmers.
2. Similarly, we have assumed on the basis of our interviews that the price received per sheep sold is less than those obtained on the market by the current commercial farmer, although we note the overhead costs per head in commercial herds will be considerably higher. Similarly, it is anticipated that the prices obtained by the single farmers will improve over time with improved farming practices and breed of animal.

Estimations for a new fully commercial small-scale farmer with adjusted assumptions are as follows:

Table 14: Small stock costing for smallholder producers at DoA approved stocking rates

Estimation for single commercial farmer on redistributed land – standard carrying capacity	**Numbers**
Land Size	3000
Carrying capacity of land	9
So total animals	333
Ewes - 70 % of herd/flock	233
Lambing rate - 90%	210
Replacement ewes for those that died - 5%	23
Available for disposal	187
Sheep used for own use - 8%	22
Lambs for sale	164
Price per lamb	R 1 000
Gross income	R 164 267
Number of jobs – 1 worker per 150 stock – plus the farmer	3.2
Households benefiting	3.2
Cost of workers - R1400 plus R200 for food	R42 667

Estimation for single commercial farmer on redistributed land – standard carrying capacity	Numbers
Other costs - R200 per ewe	R46 667
Total costs	R89 333
Gross profit	***R74 933***

The estimations for redistributed land which is allocated to commonage where a 3000 hectare farm is shared between 6 farmers is as follows:

Table 15: Small stock costing on commonage land where 6 small producers access 3000 ha at a DoA approved stocking rate

Estimation on commonage land using standard carrying capacity		
	The total farm	**Per farmer**
Land Size	3000	500
Carrying capacity of land	9	9
So total animals	333	56
Ewes - 70 % of herd/flock	233	39
Lambing rate - 61%	142	24
Replacement ewes for those that died - 16%	37	6
Available for disposal	105	18
Sheep used for own use - 44%	*46*	*8*
Lambs for sale	59	10
Price per lamb	R 850	R 850
Gross income	**R 50 276**	**R 8 379**
Number of jobs - 1 worker per 150 stock – plus the equivalent of one farmer	*3.2*	*0.5*
Households benefiting	*8*	*1.4*
Cost of workers - R1000 plus R200 for food	*R 32 000*	*R5 333*
Other costs - R50 per ewe	R 11 667	R1 944
Total costs	R 43 667	R 7 278
Gross profit	**R 6 610**	**R1 102**

2.2.2.1 Comparisons between the different farming arrangements using standard grazing capacity stock holding

Table 16: Comparative analysis of production costs and gross profit across different settings at DoA approved stocking rates

Farmer type	Number of sheep for own use	Lambs for sale from total farm	Number of jobs – equivalent FTE – Including farmer or portion of farmer	Number of households benefitting – if workers from different households	Wages	Gross profit
White commercial	18	227	1.9	1.9	R57 618	R128 669
Land reform commercial	22	164	3.2	3.2	R42 667	R74 933
Commonage farmers	46	59	3.2	8[15]	R 32 000	R6 610

[15] Two workers and six farmers

2.2.3 Wine grapes

Wine grapes are currently the dominant commodity produced in the area irrigated with water from the LORWUA managed irrigation scheme – as highlighted earlier it constitutes 85% of productive land that is fed by the LORWUA irrigation scheme. According to Vinpro, the industry support organization, there are 9861 hectares under vineyards in the Matzikama area and the average yield per hectare is 26.98 tons per hectare – approximately 266 000 tons of grapes per annum.

The cost of production, with provision for renewal of old vines is set at R49 477 per hectare and so the total expenditure, in terms of Vinpro's figures is R487 892 697 per annum. The Vinpro figures put the targeted and average income at approximately R3000 per ton which means that income for the area was in the order of R798 149 340.

Production conditions

Wine grapes are capital intensive, increasingly mechanised while market prices may fluctuate significantly, influenced by a wide variety of variables including cultivar quality, water availability, local and global competition. Vineyards need water. Drought can have significant impacts on established vineyards which may make take a number of years to recover. Nevertheless, wine grapes are an important crop which is well managed can provide a stable income.

Most wine grapes are produced using a traditional method where the grapes are trellised in rows that are spaced between 2.4 and 2.7 m apart and the density of vines per hectare is between 2200-3400. The bulk production yields in such vineyards are between 10 and 20 kg of grapes per vine. This does not require specialised tools and is generally harvested with a harvest machine designed for this kind of trellises. According to the Stellar CEO, who favours a new approach of high density grape production, the life expectancy of these traditional vineyards is relatively low at around 18 years, production consistency is low, such planting produces a dense canopy which prevents the light from reaching the grapes, they have a low heatwave tolerance, require high water consumption and high fertiliser requirements, while disease risk is also high.

On an increasing number of farms, the producers are introducing high density grape production. With high-density planting the rows are much narrower with the rows set at 1.785 m apart. This gives a much high-density of vines per hectare at 5600. There are different approaches to planting – on larger scale land portions trellising is used while there is also a high-density bush grape approach which is aimed at situations where it is hand harvested. The trellising is different to the trellising used in the traditional methods to enable a less dense canopy and so let more light in to the fruit bearing parts of the plant. According to Stellar, vineyards have a longer life expectancy (about 25 years when planted for quantity and 30 years when planted for quality). There is a higher production consistency and much higher quality can be achieved. There is increased tolerance to heat waves, lower water consumption, lower disease pressure and fertiliser requirements. The approach, however, does require expensive specialised tools and equipment which increases the capital cost of vineyard establishment and harvesting.

There are three different ways in which small-scale farmers or land reform communities farm with wine grapes in Matzikama:

- Small-scale, single plant bush, high-density wine grapes which are planted on land sizes of between one and five hectares. The objective here is that each individual farmer farms their own land, primarily by hand (including harvesting) with local labour which s/he has direct control over. The grapes are delivered to the local wine cellar and the farmer is paid in three different tranches – depending on the cellar. In this system the farming operation is individually owned and managed and support comes directly from the wine cellar – particularly regarding technical assistance.
- The second option is where an individual or a group of farmers takes over an existing farm through land reform on which there are already wine grapes and farms these in a traditional manner making

adjustments where possible. Such vineyards can be subdivided into individual portions where the machinery and other capital-intensive resources are leased by the different farmers. However, the management of shared equipment does not have a strong record of success and requires significant management capacity to run effectively and sustainably. Non-payment and poor equipment maintenance can quickly cripple such services. It is possible to produce wine grapes in a more labour-intensive manner, but this would also require building a brand and securing professional management to mitigate challenges regarding employment and management of labour as highlighted earlier in the report.

- The third option is where a group of farmers, such as the 153 farmers at Ebenhaeser, or a group of them, partner with a large-scale commercial operation to farm contiguous land parcels employing high density wine grape production. This would provide such producers with the benefits of access to large-scale machinery and production management systems provided as part of a bigger business. This is an option proposed by the Stellar group to utilise the TRANCRAA land at Ebenhaeser. Such an undertaking would require capital for establishment costs, production costs and water (R12 000 per year per 1.6ha). Individual returns and benefits have not been calculated for this model as yet.

Marketing

Wine grapes are produced for locally based cellars of which there are two types - the old cooperative wine and the new type of company owned cellar. The old type of coop is based on a quota system where producers are allocated a quota. This requires that they pay a portion of the fixed costs of the Cellar in proportion to the quota allocation. This cost is payable whether the producer delivers their quota of grapes or not. If a producer produces more than their quota, then the Cellar is obliged to take any other grapes that they bring to be processed. The payment for the grapes delivered is done through three “skotte” - just after delivery, six months after delivery and then 18 months after delivery.

The fixed-cost formula appears to impact negatively on all farmers – particularly land reform farmers who have been affected by drought which has reduced the water allocations available per hectare. Land reform farmers often face delays in accessing the financing promised by the state, which similarly impacts on production and outputs.

The provision of grapes to company-owned cellars is based on the seasonal going price for the delivery of grapes alone - there is no separate fixed cost amount payable. The payment for the grapes delivered is then paid to the farmer in twelve monthly amounts through the year following the delivery of the grapes.

Basic financials and job implications

Vinpro prepares an annual update on the different statistics on wine grape farming. This data is utilised to provide an understanding of production in the area. The figures below are drawn from the 2018-2019 Guideline document. In addition, the data is complemented by information obtained from Stella Organics cellar regarding high density wine grape production as well as information obtained from Cedar Cellar which assists small-scale producers of grapes using the high-density bush grape methods.

The following table provides the basic information for the different production methods.

Table 17: Production costs compared for different wine grape production systems

Detail	Traditional[16]	High-density[17]
Establishment costs	262000	385000
Production cost per hectare	49477	49477
Average yield	24	33.5
Average price per ton	3200	4350
Gross income per ha	76800	145725

[16] Drawn from Vinpro 2018-2019 Guideline

[17] Drawn from Stellar Organics and Vinpro Guideline

Detail	Traditional[16]	High-density[17]
Gross profit	27323	96248
Jobs	0.33	0.33

The benefits of shifting to the high-density approaches is that the projected annual income is much higher. The high-density approach does require closer management. The establishment costs of larger scale trellised high-density grapes are much higher and so, depending on who is to carry the cost of this it is a factor to be taken into consideration – for the state in particular. Bush grapes (for which we do not data as yet) have higher labour requirements per hectare compared to the other two approaches which are increasingly mechanisms.

2.2.4 Dried grapes – raisins and currants

Production conditions

Grape production for raisins is very similar to wine grapes as discussed above except that the trellising is very different in order to facilitate harvesting by hand. This makes it significantly more expensive per hectare than wine grape vineyard establishment.

Once the grapes have matured, they begin drying on the vines but are then picked by hand and then dried in a variety of methods using sun, wind and chemicals to dry them out to a certain extent[18]. Once dried to the required level for the particular cultivar and use, they are then transported to one of the raisin pack houses in the different growing regions of the country – Carpe Diem, Fruits du Sud, Northern Cape Raisin SA, Prosperitas Foods, Redsun Raisins and Safari. A production volume of 74,830 tons in the 2019 was predicted of which 80% is exported Calitz, D (2019). About 90 percent of raisin production in South Africa is produced in the Orange River Region and 10 percent is produced in the Olifants River region in the Western Cape.

Marketing

Dried grapes (raisins, sultanas and currants) are a promising crop. While the capital outlay is high the returns are also very good.

Producer prices for raisins are very sensitive and rely on supply and demand factors, as well as the foreign exchange rate. Producers agree on price and sign supply contracts with raisin processors and packers in advance for each season. This usually comes to a bidding war between the different processors which works in favour of the farmer. The multi-channel marketing system that was introduced with the (dissolving of the marketing control boards) enabled farmers to "earn an almost hundred-fold increase in their selling price" (Karl van Rensburg (2017).

Moreover, the payment for the produce happens soon after the crop's delivery - "We pick, dry the grapes for two weeks, deliver it to the client, and a week later we're paid. Wine grape producers, on the other hand, have to wait up to 18 months to be remunerated," Karl says.

Basic financials and job implications

Table 18: The economics of raisin grapes

Detail	Numbers per hectare
Establishment costs	R420 000
Production cost per hectare	R49 477
Average yield - dried tons	8.3
Average price per ton	R26 000
Gross income per ha	R215 800
Gross profit	R166 323
Jobs	0.50

[18] For more detail on these methods see https://actascientific.com/ASAG/pdf/ASAG-03-0618.pdf

2.2.5 Lucerne

Production conditions

Lucerne is an increasingly sought-after product, with the apparent increasing prevalence of drought. It is used as a feed for animals in different ways:

1. It is used directly as grazing feed where particularly "weaned lambs, ewes with lambs at foot, milk cows and young oxen (steers)"[19];
2. Cutting the lucerne and storing it in the form of bales for off-season feed addition to natural and other grazing;
3. Production of lucerne pellets for feed.

Depending on the conditions in which the lucerne is grown it allows for between 2-12 harvests (cuts) per year and generally has a life expectancy of between 5-7 years.
According to the Department of Agriculture, there are about 540ha of lucerne planted in the Matzikama municipal area. The average production per hectare is 29 tons[20] and so an amount of about 15 630 tons per annum.

Marketing

There are various markets for lucerne if it is going to be cut and either baled of processed into lucern pellets:

1. Directly to large-scale and small-scale farmers through informal networks;
2. To producers of pellets;
3. Internationally - about 150 000t are exported annually to the United Arab Emirates, Dubai, Oman and China[21].

Basic financials and job implications

Table 19:The economics of lucerne production

Detail	Numbers per hectare[22]
Establishment costs	R20 800
Production cost per hectare	R28 000
Average yield	29
Average price per ton	R2 500
Gross income per ha	R72 500
Gross profit	R44 500
Jobs per hectare	0.4

2.2.6 Tomato

Production conditions

The production of tomatoes in the Lutzville, Koekenhaap area is attractive for the markets because the harvest season is at a different time to the rest of the country. Moreover, according to the CEO of Up-to-date, the variety of tomatoes produced in the Lutzville area is different to those produced in other parts of the country, for example KwaZulu-Natal, and so the area provides production conditions which allow the farmers to take advantage of market trends and obtain better prices.

[19] National Lucerne Trust https://lusern.org/

[20] Rossouw, W. Interview.

[21] https://www.farmersweekly.co.za/crops/field-crops/sa-leads-world-effective-lucerne-hay-grading/

[22] Drawn from an interview with Rossouw, W from Stellar Organics.

It is a water intensive crop, depending on the area and the season, with the Aurecon report on the use of the new water coming from the Clanwilliam dam recommending that an estimation of 9281m^3/ha/annum be anticipated in the future. This is slightly more than the current equivalent of one "hectare of water" that is provided to the farmers through the canal system[23].
According to a survey undertaken by the Department of Agriculture in 2013 (the most recent comprehensive data), there are 185 ha under tomatoes in the municipal area – 1.2% of all irrigated land. Matzikama accounts for 74% of all tomatoes produced in the province.

It is furthermore a labour-intensive crop. Zalk (Zalk, N. (2019)) reports that tomato production requires 3.5 workers per hectare. This is primarily because all parts of the production process are undertaken by hand – planting, weeding and harvesting. However internationally (USA, Italy) tomatoes are harvested mechanical employing optical sorters and able to process huge volumes of produce. Some growers have begun to make use of mechanical harvesting in South Africa. However to date this has been to a limited extent due to the impacts on employment and social cohesion (Malherbe and Marais 2015).

Marketing

There are four markets for tomatoes and they each operate differently:

1. The majority of tomatoes in the area appear to be produced on a quota or contact system where the local Tiger Brands (Pepsico) factory agrees at the beginning of the season to take a specific number of tons of tomatoes at their factory in Koekenhaap – and the price is agreed to up front. The farmer has to meet the quota otherwise they will not get a quota the following year. If the farmer produces more than the quota then an alternative market must be found.
2. A local vegetable marketer, Up-to-Date, produces their own tomatoes, packs and distributes these and produce from other sources to various markets throughout South Africa – Cape Town, Johannesburg, Bloemfontein and Durban. Prices fluctuate widely during the season and the price obtained depends on the market price on the day of sale. Interviews with small farmers indicate that price uncertainty/variability are a disincentive to using this market channel.
3. There are also buyers from Durban who come to the area at harvest time and negotiate prices directly with producers and take the tomatoes in refrigerated or non-refrigerated trucks to Durban markets. The price agreed is paid within days of taking delivery in the area.
4. Some farmers also sell tomatoes in the local community. This is the option of last resort as:
    a. there are no established local market channels to facilitate the sale of such produce;
    b. it is time consuming and costly to organise tomatoes to be sold locally in small amounts rather than once-off bulk sale of the product;
    c. selling tomatoes locally means dealing with cash which presents security risks.

Basic financials and job implications

Tomatoes is a labour-intensive commodity and also produces a reasonable gross profit per hectare. As highlighted above, however, it is a product that through which you can make a lot of money, but it is also a product where when things go wrong you can lose everything[24]. The following table provides an overview of expected gross profit and jobs per hectare from tomato production.

Table 20: The economics of tomato production

Detail	Numbers per hectare
Establishment costs	10000
Production cost per hectare	110000

[23] Formally the LORWUA is supposed to provide 12 200m^3/ha but due to the drought and the lack of capacity of the canal, the farmers in the Lower Olifants have only been provided with about 8500m^3/ha thus severely limiting the possibilities for production.
[24] Comment by the CEO and part owner of Up-to-Date in Lutzville.

Detail	Numbers per hectare
Average yield - 90% of average	90
Average price per ton	1725
Gross income per ha	155250
Gross profit	45250
Jobs	3.5[25]

2.2.7 Vegetables

Vegetables form an important part of the land under production. The table below summarises data from a 2013 study undertaken by the Department of Agriculture which breaks down the hectarage of vegetable produced in the municipal area. No current data is available to assess how production may have diversified or ratios changed.

Table 21: A breakdown of vegetables grown in Matzikama

Commodity	Hectares	% of WC
Tomatoes	185.72	74.1
Sweet Potato	135.25	67.9
Cauliflower	132.43	27.9
Butternut	107.65	27.1
Cabbage	74.36	10.4
Potatoes	68.87	1.0
Onions	43.32	0.9
Green beans	40.31	59.0
Pumpkin	37.92	27.5
Gem squash	9.09	32.2
Vegetable other	7.72	22.7
Broccoli	3.95	1.7
Cucumber	3.24	51.3
Pumpkin Etc	2.63	100.0
Total	**1026.22**	

Marketing

Vegetables have a ready local market with producers selling through Up-to-Date, and the Vegetable Coolers. Producers also have the option to send produce to the Epping Fresh Produce Market. Interviews with state officials spoke of a need for vegetable packing facilities so as to add value to the product. Apparently the AgriPark plans propose the construction of such a facility. However, the interview with Up-to-Date highlights the significant capital investment and operational costs associated with such a venture. Without the sufficient and varied throughput, such an initiative could quickly become an expensive white elephant. An interview with an agent at the Cape Town Fresh produce market indicated that there could be potential for establishing a local fresh produce market in the Vredendal area.

Basic financials and job implications

For the purposes of this study the analysis below uses the detail for pumpkin production that takes place in Matzikama.

Table 22: Production costs and labour needs for pumpkin

Detail	Numbers per hectare
Establishment costs	R 10000
Production cost per hectare	R 112000

[25] Zalk, N. (2019).

Detail	Numbers per hectare
Average yield	22
Average price per ton	R 6000
Gross income per ha	R 132000
Gross profit	R 20000
Jobs	2.1[26]

2.3 Production systems

2.3.1 Arable

Small holder producers access and farm arable land in different ways. Small-scale farmers interviewed express a strong preference for individual farming enterprises owned and managed by one person. However, with the exception of Ebenhaeser it is difficult for small farmers to access land individually. Other arrangements include:

- accessing land for production through the municipality via commonage or other lease arrangements;
- individual joint venture arrangements with white commercial farmer where black smallholders may access water rights as their contribution to the partnership;
- small groups of farm workers and others who lease land through PLAS and who farm it together.
    - This may involve one of their members taking a leading management role.

2.3.2 Rangeland

With regard to livestock farming on extensive rangelands there are two systems that appear to prevail. In the TRANCRAA areas of Rietpoort and Ebenhaeser livestock is owned by individuals but grazed communally. In Ebenhaeser a few individual producers may have access to land to cultivate fodder, usually in the form of lucerne.

On the PLAS farms, there are examples where livestock is acquired, managed and sold through the group, or their business entity. However, when these small-scale farmers talk about preferred options for the future, they aspire to own stock on an individual basis, even if this is on communally grazed land.

Overall however there is a lack of accurate and up-to-date data on livestock ownership, performance and productivity – particularly for small-scale producers. As is discussed below there are plans underway to introduce a national livestock identification and traceability system to provide essential data for a variety of monitoring purposes.

Livestock identification and traceability system

Currently it is compulsory to mark all cattle sheep and goats and pigs in terms of the Animal Identification Act (Act No.6 of 2002)(Department of Agriculture 2008). In practice however many livestock remain unmarked. Nationally plans are underway to develop a livestock identification and traceability service in terms of the. Calls were made in 2018 to appoint a service provider to develop an implementation/business plan for the roll-out of the system in South Africa. It is envisaged that the chip-based and barcode tagging system will first be applied to cattle before being extended to other livestock types. This is designed to track animals down the food chain from producer to slaughter and onto retail distribution.

The potential advantages of such a system are numerous. Currently many small livestock producers complain of stock theft. A unique identifier for each head of livestock will assist with the control of stock theft and provide real-time data on the ownership and movement of livestock which will be beneficial the compilation of statistics and from an animal health management perspective. The system could provide vital

[26] Zalk, N. (2019).

animal health information as well as key tools for the management of commonage grazing systems and provide important data on stock ownership and grazing densities on land acquired for land reform. The system can also be configured to establish baseline animal performance levels to generate data on production and productivity. It could also start to provide much more accurate data on the movement of stock through formal and informal value chains (FAO 2016).

Despite the potential of this system it will be expensive and time-consuming to roll out a and is unlikely to be implemented comprehensively for some time to come.

2.4 Promising land (types, location, means of access)

Minimal land redistribution has meant that access to land has been extremely limited for landless people in Matzikama. Access to land for the future is related to the type of production - primarily a split arable farming on irrigated land and extensive rangeland livestock farming or a combination of the two which could include fodder cultivation.
State land is limited in Matzikama and what state land there is, currently does not have a water allocation. Any discussion about land access must include a discussion about water allocation to enable it to be productive.

2.4.1 Irrigated land - redistribution of land and water

Long term view - Aurecon proposals for expansion of land under irrigation using additional water from the raising of the Clanwilliam Dam wall.
The proposals emerging from the Department of Water and Sanitation study undertaken by Aurecon has identified large areas of land, including some state land which can be used for the expansion of irrigated land. However, the new allocation would be limited to 6000 ha at most. There is currently a land prioritisation process under development to identify which land will receive additional water.

The following maps show the land identified primarily in Matzikama area which is targeted for redistribution in two of the five zones identified in the study. The first area comprises portions of privately owned land totalling around 1000 ha in:

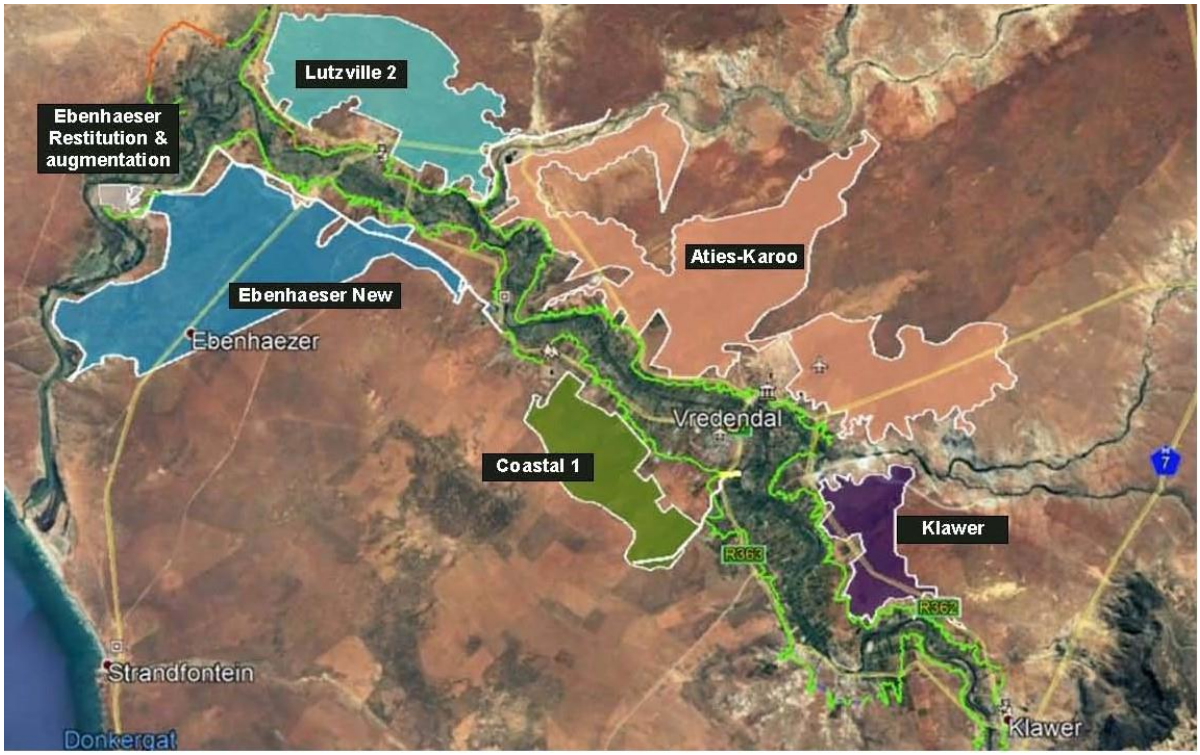
- the Trawal area to the west of the black line;
- the Zypherfontein 2 area;
- the Melkboom area.

The black line in the diagram below shows that boundary of Matzikama – Matzikama is to the north west.

Figure 7: Expansion of land under irrigation in the Trawal area

The second area is in the lower Olifants area. A total of 19531 ha has been identified in the areas around the towns of Klawer, Vredendal, Lutzville and Ebenhaeser farmers. This land is primarily privately owned.

Figure 8: Additional land which is potentially irrigable



The land areas identified in the map above are outside of the existing irrigated areas but will be irrigable assuming the water allocation becomes available in the future.

The current irrigated land (primarily owned by white commercial farmers) will receive 25% of the total project new water allocation, primarily for the purposes of ensuring the supply of the water quotas on that land.

In the interim redistribution of land in the existing irrigated areas must be planned through a different process as it is expected that the additional water from the Clanwilliam Dam wall will only be available in about 7-10 years.

Short term view

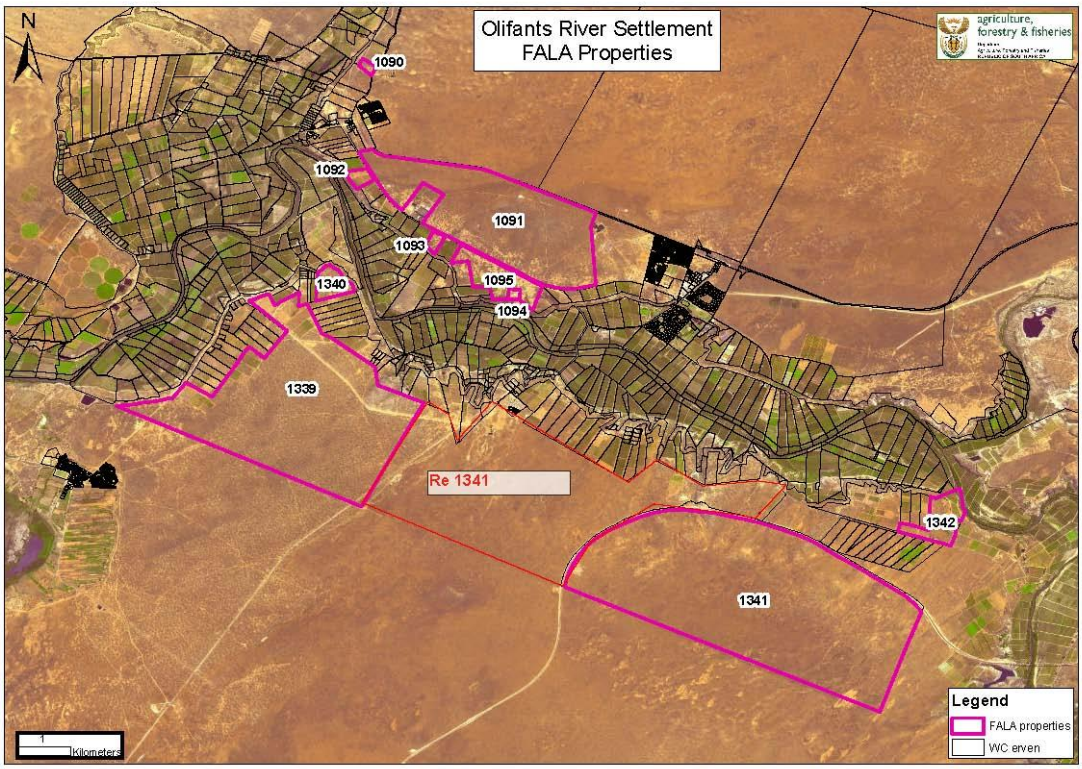
In a land audit study undertaken by Johan Bornman in 2017, he identified that in Matzikama 255 hectares of land, in small properties of less than 50 ha each, were sold in 2017, and only 87 hectares in the previous year. This suggests that there is limited irrigable land coming onto the market. However, this study was done before the serious drought in 2017-2019 which has resulted in more land coming onto the market, although no data is available on its irrigation potential.

In terms of geographical areas, land anywhere along the canal is suitable for land reform. There are small portions of state land in the Lutzville area that are held by the national Department of Agriculture, Land Reform and Rural Development. This is called FALA land - Financial Assistance Land which was land that was acquired through the previous Agricultural Credit Board from farmers who had used up all their other credit options through the Agricultural Credit Board. The map from the Department below shows these portions of land.

It is important to note from the map below that:

- none of these properties have any water allocation and so they are therefore unusable for arable purposes unless water can be loaned or obtained for such use;
- most of these properties currently have individuals allocated the land with “caretaker agreement” contracts which are precarious and can be terminated with limited notice;
- The majority of this land (portions 1339, 1340, 1341 and rem 1341) is to be allocated to the Ebenhaeser community as part of the 2015 Settlement Agreement.

Figure 9: FALA land near Lutzville



A long-term solution for the allocation of these properties (those other than the Ebenhaeser linked properties), needs to be found and water allocated where possible as well. Otherwise the land is unusable for arable purposes unless other water access is negotiated.
Interviews identified a small-scale farmer who has the "caretaker" rights on portion 1093 which has 4.5ha of arable land but no water which renders this unusable at present. Instead he has entered into a joint venture with a white commercial farmer to lease a portion of his land and access water so as to be able to fulfil his tomato quota with Tiger Brands.

With regard to water and the redistribution of it, the Municipality has an allocation of water. However, there is no common understanding on how much this is. LORWUA has indicated that they think it is in the order of between 50-100 hectares of water, while Water Affairs understands that it is more than 200 hectares. This water was previously used in its "leiwater" system which the municipality released in small canals in the towns in order for people to use for home-based production. Discussions to agree the use of this water in the short and long term are needed.

In addition, the LORWUA has a reserve allocation of water which it is holding in trust. LORWUA currently uses this water to provide to specific black farmers who have accessed land but don't have water. Greater clarity on the extent of this reserve allocation and the criteria for its use needs to be obtained.

Estimations of hectares for redistribution if 30% or 50% irrigated land is redistributed

The Aurecon study identified that there is about 15 800ha of land under irrigation and about 31 200ha of cultivated dryland. The Aurecon Study furthermore identifies that an additional 6 000ha will be brought under irrigated production as a result of the increasing of the height of the dam wall. In the table below we assume that all this new irrigation land will be allocated for land reform purposes. Based on these figures there will be a total of 21 800ha of irrigated land under production in the future. If it is assumed that the 6000 ha of the 31 200 ha of cultivated dryland will be irrigated this will reduce the dryland cultivation in the study area to 25 200ha.
The table below shows the hectares required to redistribute 30% of agricultural land (the current target) and 50% of the land – an expanded target.

Table 23: Land redistribution scenarios compared based on acquisition of 30% and 50% of available agricultural land in Matzikama

	Cultivated irrigated land	Cultivated dryland	Land to be redistributed
Short term view - Current situation			
Total	**15 800**	**31 200**	
30% redistribution	4740	9360	
Existing land reform land - estimates	419	209.5	
So land to be redistributed	*4321*	*9150.5*	*13471.5*
Land in current irrigated area to be redistributed and in dryland area	**4321**	**9150.5**	
50% redistribution	7900	15600	
Existing land reform land - estimates	419	209.5	
So land to be redistributed	*7481*	*15390.5*	*22871.5*
Land in current irrigated area to be redistributed and in dryland area	**7481**	**15390.5**	
Long term - If 6000 additional ha brought into irrigated area			
Total	**21 800**	**25 200**	
30%	6540	7560	
Existing land reform land - estimates	419	209.5	
So land to be redistributed	*6121*	*7350.5*	*13471.5*
Land in current irrigated area to be redistributed and in dryland area	**121**	**13350.5**	
50%	10900	12600	
Existing land reform land - estimates	419	209.5	
So land to be redistributed	*10481*	*12390.5*	*22871.5*
Land in current irrigated area to be redistributed and in dryland area	**4481**	**18390.5**	

If the 6000 hectares of land that is going to come under irrigation is allocated to land reform, it will mean that a further 121 ha of the existing irrigated land would need to be redistributed in order to achieve the 30% target.

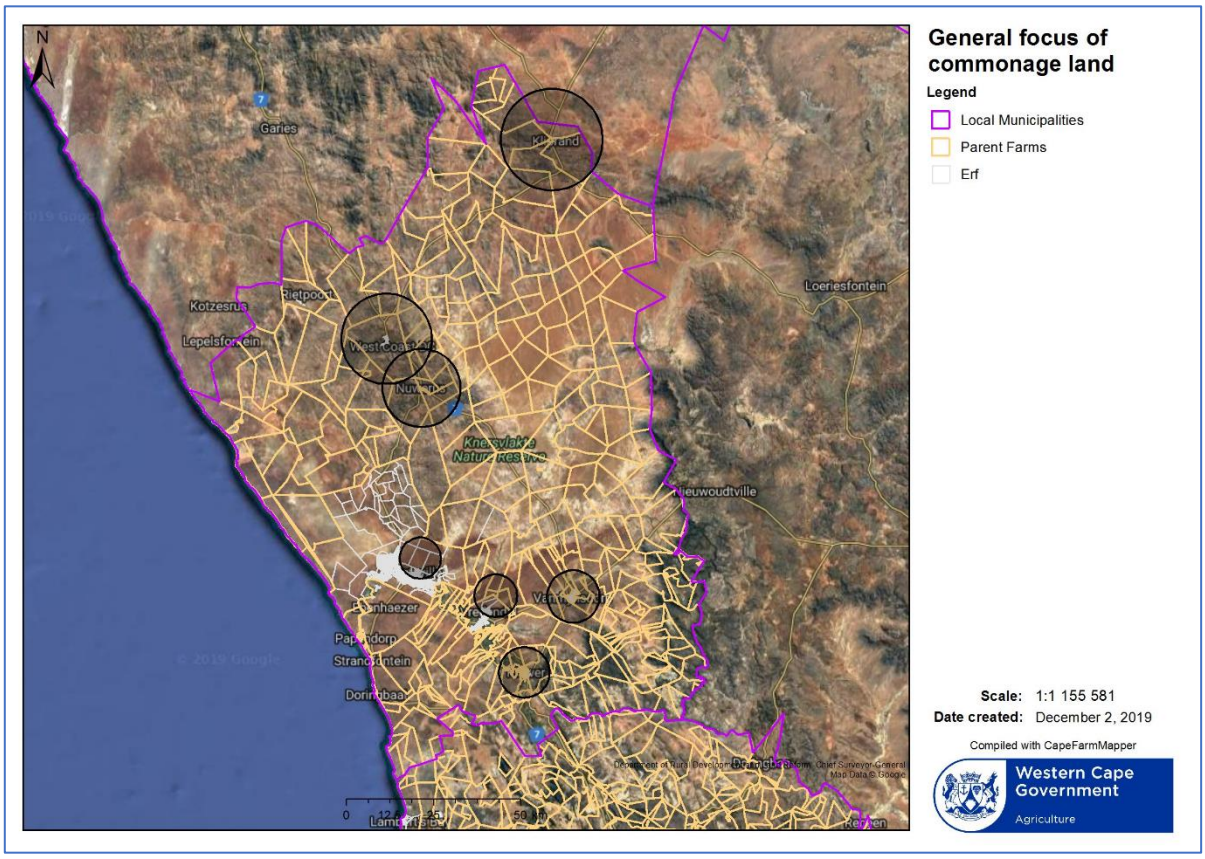
However, if the Clanwilliam dam wall is not increased, then a significant portion of the 4321 ha of the existing irrigated land would need to be redistributed to achieve the 30% target.
Given the same variables as above if 50% of irrigable land is to be redistributed, then 4481 ha of the existing irrigated land would also need to be redistribute. However, if the Clanwilliam dam wall project did not materialise almost half of the existing 7481 ha of irrigated land would need to be acquired.

2.4.2 Grazing land

Land outside the irrigated area is primarily extensive grazing land, given the lack of rainfall and the associated carrying capacity of the land. “Promising grazing land” for small scale farmers includes the limited amounts of municipal commonage. This is an important source of land in Matzikama and in other municipalities in the Western Cape. Additional land needs to be acquired in close proximity to the towns of Kliprand, Bitterfontein, Nuwerus, Van Rhynsdorp, Vredendal, Lutzville and Koekenhaap - as shown in the map below.

Sustainable management of this resource will require agreement and enforcement of appropriate stocking rates which may vary according to which grazing management approach is adopted. It is proposed that land adjacent to the above towns would be allocated to farmers with smaller flocks (1 -50 sheep).

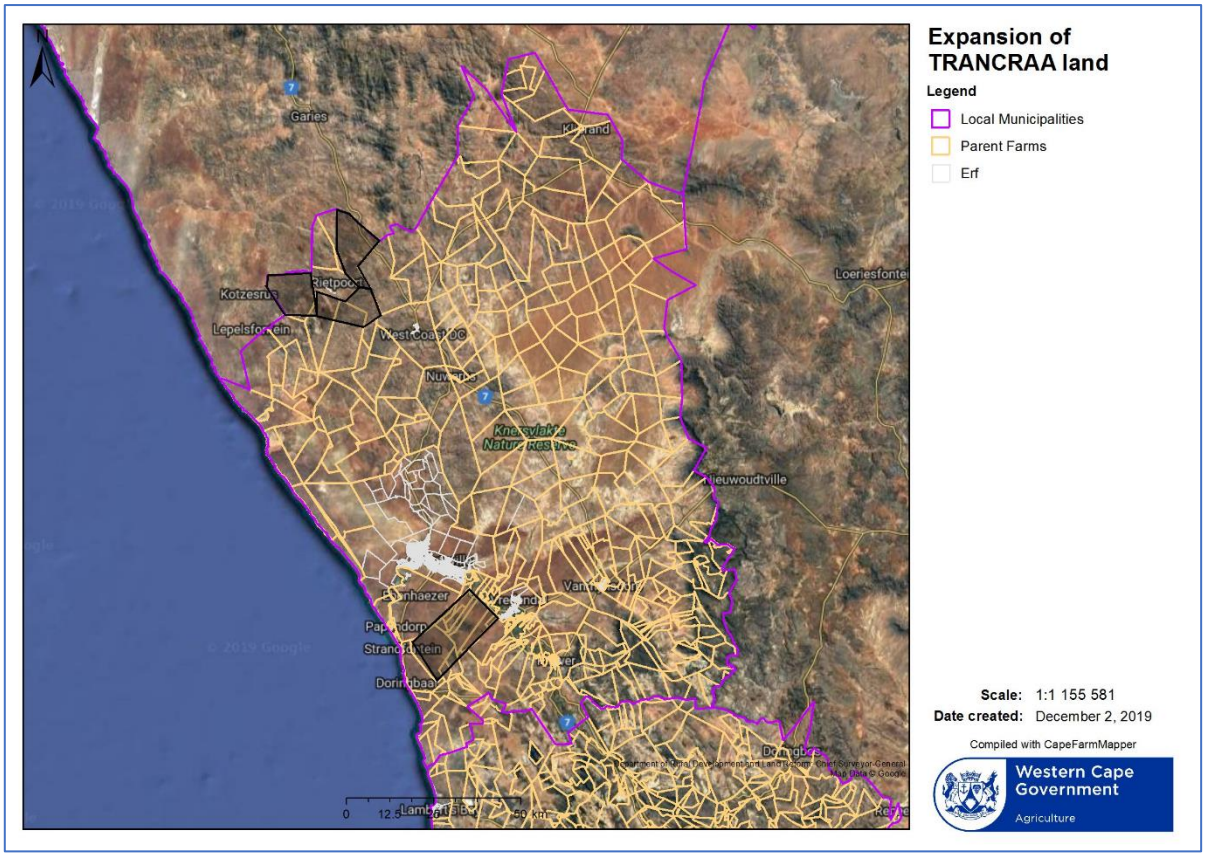
Figure 10: Areas suitable for commonage expansion



Land around the TRANCRAA areas of Ebenhaeser and Rietpoort are key areas to focus on for acquisition, given that there are already farmers operating in the areas and the land in both areas is currently significantly overgrazed when assessed against the stockings rates calculated by the Department of Agriculture.

The land targeted for acquisition is indicated in the map below:

Figure 11: Land identified to expand the grazing around existing TRANCRAA land



Estimations of hectares for redistribution if 30% or 50% range land is redistributed

The table below calculates the hectarage of new grazing land to be acquired to meet the 30% and expanded 50% targets.

Table 24: New areas of grazing land to be acquired to meet the 25% and 50% targets

Estimates extensive grazing area	
Area	**Hectares**
Outside Aurecon area - estimated	870000
Aurecon area	218700
Total	1088700
30%	326610
Land reform land transferred	36280
Land to be redistributed - including Rietpoort	**290330**
50%	544350
Land reform land transferred	36280
Land to be redistributed - including Rietpoort	**508070**

3 Options

This section draws the detail from the commodities and land redistribution estimations in the Analysis section above and puts forward an option for the different types of land. There are four primary types of land in Matzikama:

- irrigated land using the LORWUA managed canal;
- irrigated land using ground water;
- marginal dryland cultivation;
- extensive rangeland for grazing.

The two key areas addressed in the discussion below are the land under irrigation using land from the LORWUA canal system and the extensive grazing on the rangeland.
Each of these areas have very particular geographical, marketing and employment factors and so are dealt with separately.

This case study does not deal with the areas which include irrigated land fed by ground water and the more marginal dryland cultivation.

3.1 Wages assumptions

The assumptions made regarding wages in the discussion below are complex and possibly problematic in terms of the law but are assumed to be realistic.

Currently on livestock farms in the communal areas in the Western and Northern Cape, as far as this research has identified, individuals that are employed as shepherds and in other roles are paid a cash amount in the order of R1000 per month plus food. In addition, the workers receive either a sheep/goat or some meat from a slaughtered animal at different times of the year. It is thus difficult within the limits of this study to provide a comprehensive understanding of the full wage package that is common on such farms in the area currently. It is assumed that such "employees" are family (either immediate or extended) and so linked to the enterprise ownership itself. In the analysis below, the cash wages that are assumed would be paid to the workers on the proposed municipal commonage farms are therefore set at this level for analysis purposes with an assessment of the number of animals that are allocated for own use also included in the calculations.

On the single owner business farms, the assumption is made that the cash components of the wages would be higher and so are set at R1400 plus R200 in food allocations for the calculations – assuming once again that these are likely to be family/relatives wages.

It is assumed (from experience in the area and that workers are most likely to stay off farm and go to the farm each day) that on the irrigated farms, the farmers will generally pay wages in cash and it is assumed it will be at the minimum wage of R3169 per month. This assumption is further based on the fact that the proposed commodities produced are far more integrated into monitoring of standards of workers conditions and wages and so adherence to prescribed wages and conditions in more likely to be monitored. However, as one of the current extension officers in the area commented, such wages are paid in government and similar projects, but if a "private thing" is undertaken then wages may go down.

3.2 Livestock

Discussions with farmers indicated that a flock size of 100 small stock units would be the minimum stockholding to derive a livelihood from stock farming – while flock sizes of 300 were regarded as the minimum for those expecting to farm full time.

As indicated above the standard carrying capacity of the rangeland in Matzikama determined by the Department of Agriculture ranges from 30-72ha per large stock unit (5-12ha per ssu). For the purposes of this analysis we have factored in drought risk and the highly variable qualities of grazing land to estimate average carrying capacity is taken to be 54ha/lsu (9ha/ssu).

3.2.1 Scenario: Redistribution 50% of grazing land to livestock farmers

It was estimated in the section above, and for the purposes of this exercise, that 50% of the grazing land be redistributed – a total of 508 070 hectare.

It is proposed in this model that 10% of the redistributed land is redistributed to the municipality in the form of municipal commonage. Municipal commonage land, as discussed above, is reasonably common in the Western Cape. It is proposed that the commonage land is acquired in the areas directly adjacent to towns with the objective that it is made accessible to individuals who have up to 56 head of stock. It is therefore targeting small-scale farmers on the lower end of the spectrum. In the event that the individual's stock numbers rise above the agreed threshold s/he would either need to divest stock to keep to the commonage limit, or upscale and relocate to other land acquired as explained below. For commonage to be effective and sustainably managed resources will need to be made available to the municipality to put in place and maintain a stock management system.

The proposed commonage share would be a total of 50 807 hectares. However, currently there is a policy obstacle to address here. Despite the recently gazetted draft Policy for Beneficiary Selection and Land Allocation (2020) which acknowledges the lack of access to land by poor municipalities for commonage, the policy goes on to state that the Department will not acquire new farms for commonage, but will release existing state land to support these applications. This of course assumes that there is sufficient and appropriately located state land for this purpose which is questionable.
It is proposed for estimation purposes, that farms acquired are divided into 3 000ha farms and that these commonage farms are allocated to 6 farmers who share the farm under the monitoring eye of a municipal commonage manager. This would mean that each farmer would be able to hold a total average of 56 head of stock. (There could of course be other ways to determine access and individual stocking rates which would be context specific).

If the average farm size is 3 000ha then there would be 17 of such farms across the municipal area – making up the 50807ha.

The bulk of the remaining grazing land (90%) is proposed to be redistributed to individual farmers each with access to a notional 3 000ha of grazing. This would total of 457 263 ha and would make grazing available to 152 farmers.

This provides the rationale for adopting this allocation of land:

1. Drawing from the studies on farming on land farmed in common in Namaqualand, it is apparent that a significant number of livestock are retained to feed the farmers and their households. Assuming that farmers farming on the proposed expanded municipal commonage may adopt similar practices, if the commonage share increased substantially through redistribution this could result in a significant number of animals exiting the current formal value chain with potential negative impacts on downstream jobs and the sector more broadly. This could have the unintended consequence of undermining the overall objective of increased employment intensity.
2. The management of commonage is complex and if poorly managed can have negative implications for the quality of the grazing land over time. This results in changes in the grazing flora leading to the predominance of less hardy and poorer quality annuals with limited resilience to adapt to the increasing intensity of climate shocks. To mitigate this will require increased investment in commonage grazing management systems with associated costs.

3.2.2 Financial and other estimations

The following table provides the detail on the costs, needs and outcomes of the commonage and larger scale individually farmed farms:

Table 25: Comparative financials for rangeland acquisition and associated benefits in different settings

Total values with standard carrying capacity of redistributed farms									
Total hectares	**508070**	**Land purchase**	**Set up costs - Proportion sheep and rams**	**First year operational costs**	**Gross income**	**Gross profit**	**Jobs**	**Cash wages**	**Households benefiting**
Commonage									
Hectares redistributed - 10%	50807								
Number of farms of 3000 ha	17 farms – but this is actually 102 farmers	R76 210 500	R2 822 611	R739 524	R851 461	R111 937	55	R 541 941	139
Single farmer									
Hectares distributed -90%	457263								
Number of farms of 3000ha	152	R685 894 500	R25 403 500	R13 616 276	R25 037 690	R11 421 414	491	R 6 503 296	491
Totals	254	R762 105 000	R28 226 111	R14 355 800	R25 889 151	R11 533 350	546	R 7 045 237	630
Current Commercial									
Current commercial farmer estimation	Number of units - 169			R20 427 493	R42 218 500	R21 791 007	324	R 9 758 023	324

An important factor that is not captured in the table above is the contribution that the different farming options make to household livelihoods – the use of animals for own use. The following table shows these estimations drawing from the information presented above in the Analysis section.

Table 26: Comparison between commercial and small-scale livestock production

Comparison of the production results between commercial and redistributed small-scale livestock production							
	Operational costs	Gross income	Gross profit	Number of workers	Cash wages	Households benefiting	Animals for own use
Sum of the results of production on redistributed land under small-scale farmers	R14 355 800	R 25 889 151	R 11 533 350	546	R7 045 237	630	4191
Sum of the results of production on the farms as they are currently under large scale commercial farmers	R20 427 493	R 42 218 500	R 21 791 007	324	R9 758 023	324	3112
Nett impact of redistribution and the anticipated small-scale farmer approach	-R6 071 693	-R16 329 349	-R10 257 656	119	-R2 712 786	306	1079
Explanation	Large-scale farmers spend R6m more than small-scale farmers on production costs	Large-scale farmers earn R16m more in gross income than small-scale farmers	Large-scale farmers earn R10m more in gross profit than small-scale farmers	Small-scale farmers employ 119 more workers than the large-scale farmers	The large-scale farmers pay R2.7m more in cash wages.	204 more households benefit from the farming operations under small-scale production	1079 more animals are utilised by the beneficiary households under the small-scale farmers system

The table above shows the following key information about the implications if the redistribution is done in this way:

1. The gross financial profit for these farms will significantly reduce with land reform – from R22m to R11.5m. These funds will be produced by the 254 land reform / small-scale farmers as opposed to currently being produced by 68 farmers (it is assumed that the average size of farming operation owned by the commercial livestock farmers in the municipal area is 7500ha – total redistributed land, 508 070 divided by 7500 is 68[27]).
2. The numbers of jobs would increase under the land reform arrangement by 222, assuming that the farmers (or portions of their time) were included in the number of jobs, but the total cash wage bill shared by the increased number of workers would be R2.7m less as it is anticipated (given the current reality) that lower cash wages would be paid.
3. The number of households benefitting from the land would increase from 324 to 630 – assuming that all workers came from different households.
4. The increased number of animals going into this increased number of households for own use, not directly proportionally, would be 1079 animals. At the same time, it would mean that this number of animals did not go into the formal value chain and this would therefore have a negative impact on the job numbers in the meat processing business[28].

3.2.3 Extension, mentoring and animal health support

The expansion of land held by small-scale farmers, both on shared commonage land and individually farmed land is going to require a significant increase in support. This in part can come from the state but here capacity limitations need to be recognised.

It was highlighted above that the Department of Agriculture currently has 3 extension staff who play a mentoring and project development role with small scale farmers. The municipality has one staff member who works directly with farmers on municipal land playing mainly a monitoring and institutional support role.

Formal and informal mentoring support has to draw on producers in the private sector and where capacity exists from NGOs. At present this capacity is negligible.
With respect to animal health services the Vredendal state veterinary office is staffed by one state veterinarian together with three animal health technicians (AHTs). These AHTs are responsible for the magisterial districts of Vredendal, Clanwilliam and Van Rhynsdorp.

Other options are going to need to be explored to expand the provision of support and advisory services. With regard to animal health there is the example of the approach taken by Mdukatshani to identify and train young people as Community Animal Health Workers (CAHW). However, rules relating to the practising of animal health technicians (GNR 770 of 2007) limit what functions para-veterinary workers are legally allowed to perform. However, Mdukatshani notes that CAHW's are allowed to diagnose and sell animal remedies to farmers. The distances and limited access to transport create significant challenges for the replicability of this model in much of Matzikama, but there is potential for such a programme to be developed in the TRANCRAA areas where there is a settled population and livestock grazed in reasonable proximity.

[27] We have been unable to find such information – this assumption is based on interviews with farmers in different parts of the municipal area – ranging from 9000 – 12000 in the northern part of the area to about 1200ha in the southern part of the area.

[28] The extent of this loss has not been calculated at this point.

3.3 Arable land in the LORWUA-managed irrigation area

The estimations in the analysis section above has highlighted the differences between the different crops – financial, jobs and other detail.

3.3.1 Scenario: Redistributing 50% of existing irrigation land

The following options with related assumptions have been prepared for a scenario in which 50% of current irrigation land is redistributed – note that the figures utilised in this discussion are based on the present situation, prior to the possible additional water coming from the increase of the Clanwilliam dam wall:

1. 50% of the land under LORWUA totalling 7481ha s is redistributed[29].
2. There are two levels of smallholder production – those farming on 6 ha and those operating on 20 ha of irrigated land.
3. It is proposed that 80% of the redistributed land (5984 ha) is allocated to the farms of 20ha in size and 20% of the land (1496ha) is allocated to the farms of 6ha in size.
4. For purposes of analysis, it is proposed that production on the redistributed farms is adjusted to achieve a better mix between long term and short-term crops than at present. This is primarily as a measure to counteract the low wine grape price and the high input costs. This appears to be a trend amongst commercial farmers too although the majority remain fixed in wine grapes as discussed further below (Kriel, G (2017)). The tables below provide an indicative crop mix for the different farm sizes.

Table 27: Indicative crop mix for a 6 ha irrigated farm

Six-hectare farm
Tomatoes - 1 hectare
Wine grapes - 2 hectare
Dried Grapes - 1 hectare
Vegetable - squash 1 hectare
Lucerne - 1 hectares

Table 28: Indicative crop mix for a 20 ha farm

20-hectare farm
Tomatoes - 3 hectare
Wine grapes - 7 hectare
Dried Grapes - 3 hectare
Vegetable - squash 2 hectares
Lucerne - 5 hectares

It is assumed, for this analysis, that some of the land acquired will be in a ready condition to be farmed – particularly portions with established vineyards and fodder crops. In other circumstances the long-term crops may not be in good condition, be old, or be of a variety that are not conducive for long term profitability. It is assumed therefore that 50% of the long-term crops on the redistributed land will need to replanted. This has two important implications:

- the costs of establishment of the long-term crops and in this regard, it is proposed that the more expensive high-density crops are planted;

[29] According to the Aurecon report

- the fact that with the establishment of crops there are expenses but no income for at least the first three years for grapes – with the income increasing per hectare as the plants come into full production by year seven.
- It is therefore assumed that the production costs for at least the first three years need to be covered from either loan or grant to enable the businesses to be successful.

In all scenarios, it is assumed that the basic set-up costs are to provided either by grant, a loan or a blending of the two which is the current preferred approach coming from the state and the Land Bank – "The Blended Funding Model was a new policy initiative aimed at addressing challenges of land reform and development support for land reform beneficiaries and emerging commercial farmers in line with a commercialisation programme for black farmers." [30].

The prices of land in the irrigated area were drawn from a recent valuation of the different types of land in the area undertaken by a valuer appointed by the Commission for the Restitution of Land Rights for the Ebenhaeser restitution case. The following table was used as the guide in estimating the cost of land to be acquired in the analysis below:

Table 29: Land prices in the irrigated area per hectare

Wine grapes with water allocation	R 240 000
Wine grapes without water allocation	R 150 000
Other crops with water allocation	R 112 500
Other crops without water allocation	R 75 000
Uncultivated	R 22 500

In all scenarios, the operational costs for the first year of operation are included, with the assumption that, besides those situations where new vineyards are established, the farmers should be able to manage the following year.
The machinery and equipment costs are included in these figures, but the provision of the machinery has not been addressed. Such machinery and equipment could come from new businesses established for such purposes, or from the Agripark facilities (this seems to be the only aspect of the Agripark which is in the process of being put in place.

3.3.2 Small-scale farmers – 6 hectare farms

As indicated above, a total of 1496ha will be redistributed to such farmers. The following are the estimations for each of the mixed farms:

[30] This was presented to and discuss in the Rural Development and Land Reform Portfolio Committee meeting on the 6 March 2019 - https://pmg.org.za/committee-meeting/28055/

Table 30: Scenario 1a for a six ha farm where long term crops are retained

	Land purchase	Set up costs	First year operational	Gross income	Gross profit	Jobs	Households benefiting
Tomatoes - 1	R112 500	R100 000[31]	R110 000	R155 250[32]	R45 250	3.5[33]	
Wine grapes - 2	R480 000	R0	R98 954[34]	R144 000[35]	R45 046	0.67[36]	
Dried Grapes - 1	R240 000	R0	R49 477	R195 000[37]	R145 523	0.5[38]	
Vegetable - squash 1	R112 500	R200 000	R112 000	R120 000[39]	R8 000	2[40]	
Lucerne - 1	R112 500	R21 000	R28 000	R72 500	R44 500	0.4[41]	
Totals	**R1 057 500**	**R321 000**	**R398 431**	**R686 750**	**R288 319**	**7.07**	**7.07[42]**

Table 31: Scenario 1B for 6ha farm where long term crops are replaced

	Land purchase	Set up costs	First year operational costs	Additional two years operational cost - long term crops	Gross income	Gross profit	Jobs	Households benefiting
Tomatoes - 1	R112 500	R300 000	R110 000	R0	R155 250	R45 250	3.5	
Wine grapes - 2	R225 000	R770 000[43]	R98 954	R197 908	R228 000	R129 046	0.67	
Dried Grapes - 1	R112 500	R420 000[44]	R49 477	R98 954	R195 000	R145 523	0.5	
Vegetable - squash 1	R112 500	R400 000	R112 000	R0	R120 000	R8 000	2	
Lucerne - 1	R112 500	R21 000	R28 000	R0	R72 500	R44 500	0.4	
Totals	**R675 000**	**R1 911 000**	**R398 431**	**R296 862**	**R770 750**	**R372 319**	**7.07**	**7.07**

[31] As per estimations drawn from Stellar Organics

[32] 90 tons per hectare at R1725 per ton – as per Stellar estimations

[33] According to Zalk (2019)

[34] As per Vinpro 2019 Guideline.

[35] As per Stellar Estimations reduced from R3200 to R3000 per ton – assuming a lower quality (at least initially).

[36] As per Rossouw, W. Stellar Organics CEO. Interview

[37] As per Stellar estimations - reduced from 8.3 tons per hectare to 7.5 tons per hectare, dried. And R26000 per ton.

[38] As per Rossouw, W. Stellar Organics CEO. Interview.

[39] As per Stellar estimations, used generally for vegetable estimations. But reduced output per hectare from 7000 per hectare to 6000.

[40] As per Zalk (2019).

[41] As per Rossouw, W. Stellar Organics CEO. Interview

[42] Assuming the owner/farmer also works on the farm

[43] Set up costs for high density grapes - as per Stellar estimations

[44] As per Stellar estimations - R420000 per hectare

Table 32: Scenario 2A for 20 ha farm where long term crops retained

	Land purchase	Set up costs	First year operational	Gross income	Gross profit	Jobs	Households benefiting
Tomatoes - 3	R337 500	R300 000	R330 000	R465 750	R135 750	10.50	
Wine grapes - 7	R1 680 000	R0	R346 339	R504 000	R157 661	2.33	
Dried Grapes - 3	R720 000	R0	R148 431	R585 000	R436 569	1.50	
Vegetable - squash 2	R225 000	R400 000	R224 000	R240 000	R16 000	4.00	
Lucerne - 5	R562 500	R105 000	R140 000	R362 500	R222 500	2.00	
Totals	**R3 525 000**	**R805 000**	**R1 188 770**	**R2 157 250**	**R968 480**	**20.33**	21.33

Table 33: Scenario 2B for 20 ha farm where long term crops are renewed

	Land purchase	Set up costs	First year operational costs	Additional two years operational cost - long term crops	Gross income	Gross profit	Jobs	Households benefiting
Tomatoes - 3	R337 500	R300 000	R330 000	R0	R465 750	R135 750	10.50	
Wine grapes - 7	R787 500	R2 695 000	R346 339	R692 678	R504 000	R157 661	2.33	
Dried Grapes - 3	R337 500	R1 260 000	R148 431	R296 862	R585 000	R436 569	1.50	
Vegetable - squash 2	R225 000	R400 000	R224 000	R0	R240 000	R16 000	4.00	
Lucerne - 5	R562 500	R105 000	R140 000	R0	R362 500	R222 500	2.00	
Totals	**R2 250 000**	**R4 760 000**	**R1 188 770**	**R989 540**	**R2 157 250**	**R968 480**	**20.33**	**21.33**

The tables above are for individual farms. If the land allocated for each scenario is divided by the size of the farm, then the number of farming operations and thus farmers is determined. The total direct costs of redistributing this land and providing the stipulated support would be the following and would have the result anticipated in terms of Gross Profit, jobs and households benefitting:

Table 34: Combined totals of all farm types

Category of farmer	Number of farming operations	Land purchase	Set up costs	First year operational costs	Additional two years operational cost - long term crops	Gross income	Gross profit	Jobs	Households benefiting
1A – 6ha	124.67	R84 150 000	R40 018 000	R49 671 065	R0	R85 614 833	R35 943 769	881	881
1B – 6ha	124.67	R84 150 000	R238 238 000	R49 671 065	R37 008 796	R96 086 833	R46 415 769	881	881
2A - 20ha	149.62	R527 410 500	R120 444 100	R177 863 767	R0	R322 767 745	R144 903 978	3042	3192
2B – 20ha	149.62	R336 645 000	R712 191 200	R177 863 767	R148 054 975	R322 767 745	R144 903 978	3042	3192
	549	**R1 032 355 500**	**R1 110 891 300**	**R455 069 664**	**R185 063 771**	**R827 237 157**	**R372 167 493**	**7847**	**8146**

The allocation of land between the different crops in the land reform situation is as follows:

Table 35: Indicative land allocations for selected crops

Crops	Total
Tomatoes	1 147
Wine grapes	2 593
Dried grapes	1 147
Vegetables	848
Lucerne	1 746
Totals	**7 481**

Comparing the land reform option above to the existing situation on the commercial farms is instructive and provides an indication of the impact the redistribution of land will have on a number of factors.
The Aurecon Report identifies that the current use of land in the area irrigated through the LORWUA canal is as follows:

Table 36: Current land uses of irrigated land and compared

Crops	Hectares	Equivalent proportion Hectares on land reform identified land
Table Grapes	835	483
Wine Grapes	10973	6350
Vegetables	970	561
Fruit	150	87
Total	**12928**	**7481**

A comparison of the two tables above then shows that there would be a significant shift from the production of wine grapes to other crops – a reduction from 6350ha to 2593ha.
A comparison of **the financials** of the current situation on the (equivalent proportions of land) and the future redistributed situation is as follows:

Table 37: The current costs and land uses compared with projected changes

Crops	Hectares	Operational costs on equivalent hectares	Gross income on equivalent hectares	Gross profit on equivalent hectares	Operational costs on redistributed land	Gross income on redistributed land	Gross profit on redistributed land
Table Grapes	483	120 493 182	218 147 955	97 654 773			
Wine Grapes	6350	314 164 457	528 295 628	214 131 172			
Vegetables	561	61 743 711	77 249 802	15 506 091			
Fruit - dried grapes	87	4 294 602	18 731 433	14 436 831			
Total	**7481**	500 695 953	842 424 819	341 728 867	R455 069 664	R827 237 157	R372 167 493

With the shift of commodities, and even taking into account the expected reduction in output in particular crops on land reform farms, the land reform farms appear to result in a higher gross profit for the total area of land.
With regard to jobs and wages, the following is the difference:

Table 38: Comparative analysis of jobs and wages

Crops	Hectares	Average job per hectare	Jobs on 7481ha	Wages - R3169	Equivalent jobs on land reform land	Wages on redistributed farms	Difference in number of jobs	Difference in wages -R3169
Table Grapes	835	2.0	966	R3 062 436				
Wine Grapes	10973	0.3	2117	R6 707 407				
Vegetables	970	3.0	1684	R5 336 341				
Fruit - dried grapes	150	1.2	104	R330 083				
Total	**12928**		**4871**	**R15 436 267**	7847	R24 865 566	2975	R9 429 299

Once again with the shift in commodities, the number of jobs on the land reform farms increases, by 2975, and the increase in total wages paid also increases by a total R9.4m.

3.3.3 Why haven't commercial farmers shifted their production approaches?

If the estimations above are correct and the profitability of this land could be increased with the change of crop, why is it that commercial farmers have not shifted from wine grapes to other crops? There appear to be a number of reasons for this:

1. Wine grapes is considered an easy crop in terms of management requirements and, as one of the wine cellar management staff quipped – "farmers are naturally lazy".
2. Wine grapes is perceived as a crop that doesn't bring in very high returns but provides a regular and solid income -

   > "In wine grapes very little changes – old water intensive production methods kept in place by the old boere mafia and cooperative cellar structure. Old business models dominate which are designed to keep capital costs down and ensure throughput. However, this has major implications for the quality of the output. As a result, many poor-quality grapes are harvested which can only be used to make brandy. The old production methods favour production of quantity over quality"[45].

3. The wine grape farmers have much capital sunk into the vineyards and even though the regular renewal of vineyards means that changes in crops could be made, the constraints of the quota system (below) make it complex to make the change.
4. The wine grape farmers are generally locked into a quota system with the former cooperative wine cellars – Lutzville, Vredendal/Namakwa and Klawer. The "quota" is a contract between a grape producer and the cooperative wine cellar. The quota is determined in terms of the number of tons of grapes that a producer delivers to the wine cellar on an annual basis. It is seen as the producer's share in the cellar.

   There are a number of components to this contract:

   a. The producer must pay an amount per year according to the number of tons of quota – the fixed cost to run the cellar and any improvements that are to be made. This total amount must be paid whether the producer delivers grapes or not.
   b. The producer is paid for the grapes in three tranches (skot): 1) on delivery, 2) about 8 months later and then about 18 months later.
   c. The cellar must take all the grapes that the producer produces, over and above the quota (currently the producers that produce above their quota get a bonus).
   d. If the producer wants to give up the quota, an amount per ton of grapes has to be paid to the Cellar (at the one cellar this is R1500 per tons so if a farm has a quota to deliver 2500 tons an amount of R3.75m would need to be paid to the cellar).

   In a period when there is high production of grapes then it is good to have a quota because you have a guaranteed market for your grapes. In a period when production is low, it is a huge constraint as you have to pay the fixed costs regardless.
   The other cellars, that are not cooperatives or former cooperatives, do not charge this fixed cost amount.
   The wine grapes farmers are then stuck in the system with the current cooperative system because of the expense of withdrawing.
5. Changing to tomatoes and other vegetables on a bigger scale seems attractive because the returns are better and more immediate. However production of vegetables is significantly more risky, requires significantly higher levels of management, require higher levels of labour (which we have identified above is problematic in Matzikama) – "vegetables is something that you can make lots of money with, but it is also something that you can lose all with"[46].

[45] Rossouw, W. Interview.

[46] CEO of Up to Date vegetable marketers. Interview.

Drawing from the responses of existing commercial farmers, it is clear that there are many risks associated with the approach explored in this study. If it were implemented significant mitigating measures would need to be in place for it to succeed.

3.3.4 Scenario risk analysis and mitigation

Undertaking land reform on the irrigated farms with the mix of crops discussed above will be expensive, require high levels of management skill and technical expertise backed by advanced market intelligence and access support.

Indicative estimates based on the aggregated costs of land acquisition, establishment and operational costs are set out in the table below. These costs exclude management, mentoring and extension support. The scenario does not identify the institutional development options and cost the back-office systems and human resources required to support land reform implementation at scale. The figures presented are simplified as they are based on current prices. In practice the land purchase would be staggered over several years and set up and operational costs would escalate accordingly.

Table 39: Aggregated costs over two years on irrigated land

Land purchase	Set up costs	First year operational	Second two year operational on long term crops	Total
R1 032 355 500	R1 110 891 300	R455 069 664	R185 063 771	**R2 783 380 235**

The total national budget for land reform and related development in the Department of Rural Development and Land Reform is as follows:

Table 40: National budget for land reform – 2019-2020

Restitution	**R2 900 000 000**
Land redistribution and development	R298 000 000
Land tenure and administration	R443 000 000
Land Reform Grants	R603 000 000
Ingonyama Trust	R21 000 000
Agricultural Land holdings account	R1 406 000 000
Total	**R5 671 000 000**

This means that the land reform budget for Matzikama in order to undertake the intervention would be 50% of the total national budget including the funds for Restitution acquisitions and compensation, and 100% of the land reform and development budget excluding restitution!
It is clear that poorly planned, rapid land acquisition carries a high risk of failure. The history of land reform in South Africa provides many lessons which highlight the risks associated with an intervention on this scale. There is evidence that much land acquired to date remains unutilised.

It was recently reported that in Limpopo province of the 818 farms acquired through land reform only 218 (26%) were leased to beneficiaries, while the remaining 609 (74%) had not been released. The rental income obtained from the 218 leased farms was just R252,391. It was not clear whether this rental revenue was a monthly or annual figure. This clearly demonstrates that accessing land is insufficient to enable employment intensive land reform. Where land is acquired and not farmed productive assets quickly depreciate and properties become the target of asset strippers

The scenarios for employment intensive redistribution programme set out in this document represents a major social and economic development intervention. This will have no chance of success if approached in the old ad hoc manner of "throw land at the beneficiaries, disappear and hope that it is successful" – as has been the approach to land reform generally in South Africa.

For such an approach to have any chance of success essential elements include:

- A capable State Department or alternative institutional arrangements to effectively manage state land assets and closely coordinate the provision of support.
- Solid institutional support for managing land rental and production contracts, mobilising farmers around training and mentoring programmes and problem solving of a general nature.
- Careful profiling of those accessing, or already on the land and wanting to farm at different scales, so as to achieve the best fit between need, capabilities and available support requirements.
    - In this regard the Draft Beneficiary Selection and Land Allocation Policy (DRDLR 2020) notes that "the lack of a credible and transparent process for land allocation and beneficiary selection has resulted in manipulation of the process". The draft policy cites the final report of the Presidential Advisory Panel on Land Reform and Agriculture which recommended that there is a need to "specify policy on who is to be prioritised, who is not, how scarce resources are rationed and spread across competing needs, and how beneficiary selection from a pool of applicants is decided" (ibid: 33).
    - The policy proposes the establishment of an independent panel on land allocation and beneficiary selection. Provincial panels will have the power to "allocate land up to a value of 50 million Rand for agricultural production and release data and land for various needs and categories of farmers" (ibid: 53). The envisaged process involves compulsory farm inspection and interviewing of prospective applicants.
    - According to the policy "individual households in rural and urban areas…may apply directly to the department and may be allocated land for farming or other uses and shall not be subjected to the screening process – These applicants will mainly be the beneficiaries of the departments 1 ha one household redistributive programme".
    - The draft policy notes that "the National Comprehensive Producer Support policy has introduced six categories of farmers based on their turnover which have different land needs and support requirements and which will be aligned to this policy in terms of land allocation and selection" (ibid: 44)
- The provision of appropriate and effective producer support will require hands on and extensive involvement of very capable project managers (assuming these exist or can be trained) who have local knowledge and experience of different production systems coupled with very good understanding of the institutional complexities involved in land reform and the processes of timeously accessing state and private sector finance and support.
- Rigorous analysis of the failure of past "strategic partners" in different land reform initiatives in South Africa while enlarging opportunities for contract farming and the provision of producer support through this approach.
    - International seed propagation company Syngenta interviewed in Lutzville provides seedlings, enables access to equipment for land preparation ensures technical staff make weekly visits to monitor crop growth and provide advice on fertilisation herbicide and pesticide application. Syngenta makes use of an electronic data collection system which links the local office to the producer.
- Negotiation of clear offtake agreements where the price is (preferably) negotiated upfront with progress payments to enable the farmer to manage their cash flow.

- The critical interrogation and oversight of partnership arrangements and joint-venture agreements which begin from an understanding of the causes of failure of many such agreements such as the experience in Limpopo province documented by Lahiff et al. who found that:

  "Joint ventures have struggled to get off the ground and some have already collapsed with major losses. Apart from some limited employment opportunities, few if any benefits have yet reached ordinary community members. In some cases, employment and productivity on the farms has declined severely. Overly complex deals, ineffective support from the responsible state agencies and lack of capacity on the part of commercial partners stand out as the main factors contributing to the failure of the joint venture model in the South African context."

  Lahiff et al assert that:

  "Alternative policies will need to address all these areas, which places responsibilities on state agencies, communities and their commercial partners to develop more plausible models that adequately address both equity and sustainability. Key to this will be the choice of commercial partners, who should ideally have sufficient resources to fund a venture throughout a prolonged start-phase and a demonstrable commitment to an inclusive business approach."
  (Lahiff, Davis et al. 2012)

3.4 Summary of impacts of the intervention

The following table provides a summary of the overall impact of the intervention analysed above giving detail on the net jobs created (over and above the jobs currently estimated to be on the farms as they are currently farmed by large-scale white commercial farmers). It provides the detail for two scenarios on the extensive grazing land – in a situation where the current standard determined grazing capacity is adhered to and a situation where a more intensive stocking rate is used.

Table 41: Summary of impacts of intervention

Agroecological zone	**Proposed production system**	**Number of households benefitting**	**Number of jobs in sub-set**	**Number of nett jobs in agroecological zone assuming 50% redistribution[47]**	**Number of nett livestock used by self**
Lower Olifants River WUA Irrigation scheme area. Current primary crops = 85% wine grapes; 9% vegetables; 8% table grapes; 1% fruit. Future crops = tomatoes 15%; winegrapes 35%; dried grapes 15%; veges 11%; Lucerne 23%	6ha farms with a mix of 1ha tomatoes; 2 ha winegrapes; 1 ha dried grapes; 1ha vegetables and 1ha lucerne. A total of **248** such farms - 50% using existing vineyards, 50% planting new vineyards.	1762	1762	Estimated current jobs with current range of crops under existing commercial farmers = 4871. Estimated number of jobs with new range of crops = 7847. Net jobs therefore = 2975	
	20ha farms with a mix of 3ha tomatoes; 7 ha winegrapes; 3ha dried grapes; 2ha vegetables and 5ha lucerne. A total of **299** such farms - 50% using existing vineyards, 50% planting new vineyards.	6384	6085		
Extensive rangeland area - standard determination of carrying capacity of 9ha/ssu.	**17** farms of 3000ha each allocated to municipal commonage. Shared by 6 farmers with a maximum of 56 ssu.	139	55	Estimated current jobs under commercial farmers - 257. Expected jobs under redistributed scenario - 376. So nett jobs is 119 jobs. Note: these jobs are expected to be paid less than the minimum wage.	1079
	152 farms of 3000ha each allocated to single farmer businesses. Each farmer able to farm with a maximum of 333ssu	491	491		
Totals for total area distributed - 515 551ha -		8776	8392	3094	

[47] Only one option is presented as only 1% of land has been redistributed.

Total cost of intervention[48] - with standard carrying capacity				**R4 399 903 731**	
Cost per nett on-farm job and changing ownership of enterprises[49] - standard carrying capacity				**R1 422 076**	
Cost of job - just establishment cost and operational costs - standard carrying capacity				**R595 778**	

[48] Land purchase at market rate; set up cost; first year operational cost; additional two year operational cost on long term crops

[49] Includes land price, set up cost, first year operational cost, and second two years operational cost on long term crops planted - standard carrying capacity

4 Conclusions

Much of the options analysis as part of the scenario development at the core of this study has been shaped by desktop calculations and associated economic projections. As highlighted throughout the report, while such a scenario development process is valuable and provides insights into the scale of land acquisition and the expanded requirements for a wide range of support services – planning, management, production, marketing and more – such an approach is inherently at risk of simplification and the drawing of conclusions based on flawed or inadequate data.

Despite these shortcomings this study clearly demonstrates potential to promote employment intensive land reform in Matzikama local municipality in both irrigation and extensive rangeland production settings.

The area for immediate focus and attention is Ebenhaeser where land and water are available and there is existing cultivation on irrigated land and grazing on communal rangeland. However, there is an urgent need to prepare comprehensive household livelihood profiles of each the land rights holders. This will provide the basis for an analysis to identify the various social economic and institutional constraints which are preventing those with access to irrigable land from profitably utilising this resource. This analysis will provide the platform for the identification and implementation of potential solutions.

Given that it will be several years before additional water is made available from the planned raising of the Clanwilliam dam wall, Ebenhaeser and Matzikama municipality more broadly, represent an important learning laboratory. The combination of experience to date and the implementation of plans at Ebenhaeser over the next few years will provide essential data and lessons for the practical planning and preparation for accelerated land reform elsewhere within the municipality. This will shape the design of partnership arrangements and identification support services and extension methodologies required in future years which must factor in measures to mitigate mounting climate risk. There will need to be a systematic multi stakeholder process to capture, analyse, document and disseminate these lessons to help shape improved policy and practice.

At the same time the future trajectory of land reform planning and implementation will need to be closely tied to understanding of the rapidly changing conditions shaping the agricultural economy globally, nationally and locally. Research to date highlights how processes of consolidation in the agricultural sector, coupled with the adoption of mechanisation and digital technology continue to sharpen the competitive advantage enjoyed by large producers while raising the barriers to entry for smallholder producers.

Overall there is a strong argument that Matzikama is fertile ground for the crafting of incentives and creative local initiatives to accelerate land reform which encourage and enable large scale producers to develop “more plausible models” that adequately address both equity and sustainability while advancing employment intensive land reform.

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Annexure 1: Land Reform initiatives in Matzikama

Farm/ Project name	Hectares Acquired	Land reform programme	Description
Luiperdskop	7 043	SLAG	This is part of the Griqua land discussed below.
Goedemoed/ Olifantstrust	50	Share equity	Goedemoed was a equity share project. It later went bankrupt. The land was sold to a commercial farmer
Eikevlei Roomsekamp	2	SLAG	This was a small land for settlement project
Vredendal Saamwerk Boerdery – Municipal commonage	22	Commonage	This is a smallholder job and livelihoods creation project on commonage land. The chair of the Vredendal Small Farmers has leased the land. He was assisted by the Agricultural Department with vine reestablishment and "is currently doing OK". He uses a Municipality water allocation
Alfalfa Boerdery Trust	437	LRAD/Share equity	This was an equity share scheme. There was a breakdown in relations between the partner and worker shareholders. The equity scheme was terminated and recently sold to commercial farmers.
Eikevlei Community Trust	195	SLAG	A farm was purchased for 100+ people. Two groupings emerged. Part of the land was rented to a JV involving the previous owner's son. It did not succeed and was subsequently sold to commercial farmers.
Griekwa Burger Boerdery	1911	LRAD	This was a land redistribution project. However, the people involved lost a lot of stock through theft and stopped farming. They rented out the land to other coloured farmers who are reportedly doing well.
Bitterfontein	2 051	PLAS	Bitterfontein is a PLAS farm with 250 small stock on 2000 ha. Allocated to three people, one of the farmers subsequently left. A mentor was contracted by DRDLR at R15000 a month. A dispute developed between the farmers and the mentor over payment. This dispute went to the CCMA which found in favour of the mentor requiring the farmers to sell stock to cover their debt.
Troe Troe no.259	1 767	PLAS	Troe Troe is PLAS land that was not purchased as a going concern. All the equipment was taken by the previous owner as reportedly DRDLR did not purchase moveable assets. The farmer was promised Recap but never got it as Recap was cancelled after a review. The Department of Agriculture has recently been able to secure some funding, but the project is going slowly.
Olifantsrivier Nedersetting	1592	PLAS	The farmworker group rented the land from DRDLR in 2015. They have 27 hectares of water and pay an annual rent of R13 500. They have grazing land, and farm with vineyards and vegetables. They have a 30-year lease agreement. There are 7 people, but one of the members manages the farm. They received no support in the first year after they took occupation and had to rent a portion of the farm out to obtain income to survive.
Ebenhaeser Land Claim (Phase 1)	102	Restitution	These portions of land were acquired in 2008-9 for restitution. The Department then leased the farms back to the previous owners, prior to the properties

Farm/ Project name	Hectares Acquired	Land reform programme	Description
			being transferred to the Ebenhaeser CPA in 2018. No further investment was made by the lessees which resulted in degradation of assets.
Ebenhaeser Community Land Claim (Phase 1A)	422	Restitution	This land was acquired after the Ebenhaeser Settlement Agreement was signed in 2015. The ECPA took over the land with no funds from the State. Some funds were later received for the farming operations. The Ebenhaeser CPA subsequently entered into an agreement with Stellar Winery which has invested much time and funds.
Apostoliese Geloofsending Kerk (Klawer)-Amendment	5.0	Restitution	
Beeswater Community Rural Claim	3 990	Restitution	The community has recently acquired this land but has not yet received development support. The water on the farm is very brackish. Different land use options are being explored.
Ebenhaeser TRANCRAA	18 000	TRANCRAA – Tenure reform	This is the land on which the community has been living since their removal in 1926. The land is subject to tenure upgrade in terms of the Transformation of Certain Rural Areas Act. A plan for the use of the land and the associated rights of members has been developed and adopted by the community but needs to be implemented.
Total	37 589		

Annexure 2: Small-scale farmers in Matzikama

Name of group/town	Number in group	Land on which they farm	Key products and markets	Level of farming	Main challenges
Van Rhynsdorp - vegetables	2	1 ha Municipal land located within the town	Vegetables:	Mainly for own use but some sales	Access to secure land and water.
Van Rhynsdorp - livestock	Unknown	On municipal land near sports ground and sewerage works	Livestock and lucerne		
Klawer	40	3.5 ha – municipal land	Sheep, goats, pigs and a small portion of lucerne – 100 m^2	Kraalboere[50][1]. Primarily for own use but to expand as a cooperative.	Access to land and water and larger portions for larger scale farmers
Vredendal Klein boere	35	314 ha without water and 22ha with 10ha water rights. Municipal land – 9 years 11 months lease	Sheep, goats, pigs with some small-scale dryland cultivation. Wine grapes and lucerne on 22 ha farmed by one person	Small-scale livestock farmers mainly for sale in emergency or December. Winegrape and vegetables for market.	Access to land and water for larger farmers to allow expansion off commonage Organisational difficulties.
Klipsweet Boerdery	25 but 8 actively farming	Rent Griqua land reform land - Zoetvlakte. 1900ha	About 320 sheep and goats.	Small-scale mainly for market – abattoirs and community sales.	Land. Trying to lease from local white farmers but not successful.
Lutzville Wes	14	Occupy FALA land adjacent to Lutzville Wes without permission.	110 sheep and goats and 43 pigs.	Essentially kraal boere but some slaughter and prepare meat packs for sale in community	Access to secure land for livestock and feed production
Uitkyk Lutzville	15	In kraals and on adjacent Municipal land – leased.	Sheep and goats – numbers uncertain	Essentially kraal boere	Access to grazing land and opportunity to cultivate lucerne
Koekenhaap Vee Boere	6	In kraals adjacent to their houses on land that they don't know who owns	Sheep and goats - numbers uncertain	Kraalboere fed entirely on purchased feed	Improved animal health Access to land for natural grazing and

[50] Kraalboere essentially keep their stock in pens and provide them with purchased feed. Some kraalboere have access to limited natural grazing on adjacent land.

Name of group/town	Number in group	Land on which they farm	Key products and markets	Level of farming	Main challenges
					pasture
Gert "Pit"	1	Has access to 4.5 ha of State land – FALA. But it has no water so he uses a local commercial farmer's land in a joint venture with him.	Tomatoes – 200 ton quota with Tiger Brands in Koekenhaap	Small scale commercial farmer – producing entirely for the market	Access to water on the FALA land and a secure long term lease.
Vuyani Charlie	7	Access to 27ha water on 1592ha land leased from the State at 6% projected turnover. R13500 rental per annum. 30 year lease on PLAS land.	Winegrapes and vegetables - as well as seed. Also grazing land.	Produce for the market entirely.	Resources to be able to farm the land – mainly through CPAC/Casidra because no Recap.
Doringbaai/ Ebenhaeser Fala land group	1	819ha of FALA land next to Ebenhaeser. Also rents land from a white commercial farmer in Doringbaai area.	Sheep, goats, oxen, pigs and chickens.	Produce entirely for the market.	The key constraint is access to water for stock. Insecure rights to land.
Ebenhaeser farmers	153 rights holders	In total about 18000 ha. Each rights holder has access to (on average) 1.67 hectares land and water, and then access to communal grazing. Land will soon become CPA owned land. AgriPark Farmer Production Support Unit start in 2020	Not all the 153 plots are cultivated due to insecure water and other constraints. Lucerne, wine grapes, vegetable seed, vegetables. On the grazing land, at least 3800 small stock.	Livestock produced for formal and informal market also in community. Some also lease land from other rights holders to expand for markets.	Uncertain supply of water from canal - new internal irrigation system to be launched in 2020. Also clarity land rights - due to be finalised in 2020. Many livestock producers do not have rights to the land.
Rietpoort, Molsvlei and Stofkraal	70	Act 9 land which also has an overlapping land claim on it. In total it is 15003 ha. It straddles Western and Northern Cape.	Sheep and goats - between 10 and 70+ small stock each. Limited dryland	Some sell occasionally in the community. Others who regularly sell stock in the community and	Access to additional land and water – for stock and pasture production.

Name of group/town	Number in group	Land on which they farm	Key products and markets	Level of farming	Main challenges
			cultivation of feed.	also to bakkie traders	
Beeswater	46 families	4000ha	Acquired in 2019. Key problem is water sufficient for animal use – brackish.	Still to establish farming operation	Key factor is access to water for stock farming.
Bitterfontein PLAS	2	PLAS land - a 2000ha farm with 30-year lease with option to buy - rental of R17500/annum.	250 meat master ewes and 8 rams	Produce for the market.	Limited experience of farming at this level.
Troe Troe	1	PLAS land - A 517ha cultivation area with grazing - boreholes electricity dependent. An additional 1250ha farm with natural grazing. A 30-year rental agreement.	Does not farm the land currently and he does not have the resources to do so.	Plan is to produce for the market.	Resources to be able to farm the land – in particular the payment of the electricity bill.