TAFS Project

Transitions to Agroecological Food Systems

Agroecological initiatives in Overberg District, Western Cape

Final site report

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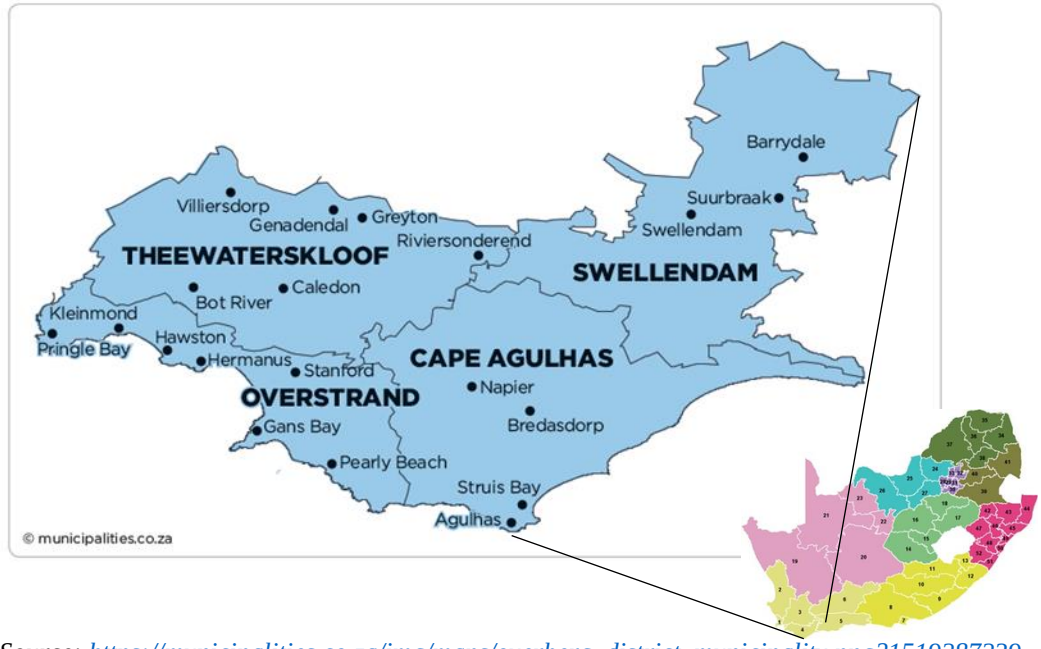
Acronyms

ABI	Agulhas Biodiversity Initiative
ANC	African National Congress
CA	Conservation Agriculture
CMA	Catchment Management Agency
COGTA	Department of Cooperative Governance and Traditional Affairs
CWP	Community Works Programme
DA	Democratic Alliance
DFFE	Department of Forestry, Fisheries and Environment
DM	District Municipality
DSBD	Department of Small Business Development
EPWP	Expanded Public Works Programme
EU	European Union
FIRE	Finance, insurance, real estate and business services
FPM	Fresh produce market
FVCT	Flower Valley Conservation Trust
GDP	Gross Domestic Product
GEF	Global Environmental Facility
IAP	Invasive alien plant
IDP	Integrated Development Plan
IP	Intellectual property
LED	Local Economic Development
LM	Local Municipality
MAGIC	Municipal Applied and Green Initiatives and Concepts
NGO	Non-government organisation
NPO	Non-profit organisation
NRM	Natural resource management
ORCT	Overberg Renosterveld Conservation Trust
PGS	Participatory Guarantee System
SANParks	South African National Parks
SAOSO	South African Organic Sector Organisation
SEDA	Small Enterprise Development Agency
SEF	Presidential Social Employment Fund
SEFA	Small Enterprise Finance Agency
SHP	Sustainable Harvesting Programme
SMME	Small, medium and micro enterprise
UNESCO	United Nations Educational, Scientific and Cultural Organisation
WfW	Working for Water programme
WMA	Water Management Area

1. Background to Overberg and Overstrand municipalities

Figure 1: Map of Overberg District Municipality



Source: https://municipalities.co.za/img/maps/overberg_district_municipality.png?1519287239

Stanford, the main focus of this research, is a small town located in Overstrand Local Municipality (LM), one of four local municipalities in Overberg District Municipality (DM) in the Western Cape (Figure 1). The district borders on Cape Town metro to the west, Cape Winelands to the north, Garden Route to the east and the Atlantic and Indian Oceans to the south (Agulhas is the southernmost point of Africa). Main towns in the district are Hermanus, Caledon, Bredasdorp and Swellendam.

However, it is necessary to position Stanford in its environment and Overstrand LM within the Overberg DM. Despite geographical segmentation due to natural barriers, there is a strong articulation between the different natural and human landscapes. Two major territories are identified for their incipient transition towards agroecological systems: Overstrand LM itself, and the inland cereal-based system which has developed over the three other LMs of the district.

1.1 Ecology

The Overberg DM has a diversity of natural habitats, incorporating a coastal belt, a narrow coastal plain (2 to 5 km width), mountains and valleys with significant natural resource conservation areas, and about 15 to 20 km inland a roughly 40-km width winter grain belt known as the Rûens (hillocks) across Theewaterskloof, Cape Agulhas and Swellendam LMs. The district has gentle to moderately undulating hills enclosed by mountains and the ocean. Overstrand LM encompasses the coastal and mountain/valley terrains, with a number of valleys including the Stanford, Hemel-en-Aarde and Papiesvlei valleys flowing down to Stanford, Hermanus and Gansbaai.

The district falls within the Breede-Gouritz Water Management Area (WMA) and Catchment Management Agency (CMA). The CMA is a statutory multi-actor governance institution established under the National Water Act for multi-actor management of the ecosystem, water use and allocation. The catchment area contains five dams, as well as wetlands, river corridors and 11 estuaries along the Overberg coast. The district incorporates two marine protected areas. Declining quantity and quality of freshwater inflows into estuarine ecosystems are highlighted as concerns (OLM, 2020:39). The district has a Mediterranean climate characterised by cold, wet winters and warm, drier summers. The

western side of the district has a 75:25 ratio of winter-summer rain, shifting more to 50:50 moving east. Average annual rainfall in Overstrand is 450-830 mm (OLM, 2020:38).

The natural environment is the region's largest asset and natural resource management (NRM) is thus considered highly critical (OLM, 2020:37). The Overberg is part of the fynbos biome of the Cape Floristic Region with high levels of endemism. The Cape Floristic Region is one of the world's six Floral Kingdoms and a centre of terrestrial biodiversity. It was added to the United Nations Educational, Scientific and Cultural Organisation (UNESCO)'s World Heritage list in 2004 and extended in 2015. It includes national parks, nature reserves, wilderness areas, state forests and mountain catchment areas, with 13 protected area clusters covering over 1 million ha, including the Boland Mountain Complex north of Hermanus, the Agulhas Complex and the Riviersonderend Nature Reserve all in the Overberg DM. All legally designated protected areas are protected under the National Environmental Management: Protected Areas Act 57 of 2003, and are managed by the South African National Parks (SANParks), the Western Cape Nature Conservation Board (Cape Nature) and the Eastern Cape Parks and Tourism Agency (DFFE, 2019).

Wildfires, encroachment of invasive alien plants (IAPs) and inadequate governance systems threaten biodiversity if not timeously managed (DFFE, 2019). In 2011 approximately 31% of the Agulhas Plain was estimated to be invaded by IAPs to a density of more than 50%, with the Breede-Gouritz WMA as a whole being the most invaded area in the Western Cape (ODM, 2017a:7). A significant portion of Stanford ward is designated Critical Biodiversity Areas, with two-thirds of the Overstrand municipal area classified as 'natural habitat'. Of this, 10% is degraded or with a high density of invasive alien plants (OLM, 2021:133).

It is difficult to predict the precise impacts of climate change in local areas because of the inherent complexity of climatic systems. The south and east coastal areas of South Africa may face slightly fewer problems with heat and drought compared with the rest of the country. However, it is anticipated that there will be more intense and frequent storms, sea level rise and increased flooding, increased wind speeds, and longer drought periods. There may be coastal inundation and erosion and a moderate risk of groundwater contamination in some low-lying areas as a result of sea level rise and storm surges. The fynbos biome is fire-prone and, combined with dry, warm and windy summers creates a substantial fire risk. This can result in infrastructure damage, increased fire frequency and intensity, decreased food security, decrease in biodiversity and ecosystem services, and negative economic and tourism impacts amongst others, with particularly harsh impacts on the rural poor and residents of informal settlements (ODM, 2017a). Local actors mentioned rising temperatures [Ov02][2] and more big rain events in the past decade. Although there was no major difference in overall rainfall detected, there is increased variability on the spread of rain over the year, and the amount of rain at a given time [Ov05].

Proposed responses relevant to agroecological transitions include increasing ecological infrastructure to slow, spread and sink water run-off (e.g. on-farm furrows and swales, improving the biodiversity status of wetlands and riparian areas), expanding conservation areas where appropriate (including funding and capacity), encouraging private landowners to carry out conservation practices, replanting indigenous forests, recycling, windbreaks, adapting pest and disease management programmes, alien clearing especially of fire-prone species, water conservation, shortening agricultural supply chains to reduce emissions, using alien biomass for energy generation, implementing dryland and conservation agriculture, soil carbon conservation practices, and adopting more tolerant crops and varieties (ODM, 2017a:22-29).

[2] List of interviews / focus group discussions can be found in Annex 1

1.2 Socio-economic

The Overberg district has a population of around 300,000 people, and Overstrand LM has around 90,000, with Stanford estimated at about 15,000 people. Overstrand is 94% urbanised, with a concentration along the coastline and specifically around Hermanus and its Zwelihle township (OLM, 2021:48). The local municipal population is mixed, at 43% black African, 29% coloured and 28% white[3] (OLM, 2021:50). There is an influx of people and the population growth rate is slightly above that for South Africa as a whole (COGTA, 2020:5). This includes resource-poor migrants from the Eastern Cape, Zimbabwe and Malawi, and wealthy (mainly white) retirees.

Stanford is a small town with an umbilical connection to Hermanus for living, working and trading.

> "It's about 1 000 white folk. I think it's about 8 000 or 9 000 coloured folk and 3 000 to 4 000 Xhosa folk who all come from one very specific area in the Eastern Cape" [Ov13].
> Stanford town, Thembelihle (the township) and Die Kop informal settlement constitute Ward 11 of Overstrand LM (one of 14 wards).

Economic and spatial arrangements remain strongly shaped by the legacy of apartheid. Towns are generally still spatially divided into commercial core areas (formerly white areas), with primarily black townships and informal settlements on the margins. According to official reports, over 90% of the population in the district have access to piped water to their yard or dwelling, and to electricity. However, there is a growing housing backlog as a result of high in-migration and poor implementation of plans, and almost 20% of the district population reside in informal settlements (COGTA, 2020). This has led to urban sprawl and the spread of low density settlement into rural areas (OLM, 2021:100). Zwelihle, the township attached to Hermanus, is on the coastline and does not have space for expansion in any direction despite population growth. This resulted in significant protest actions in 2018 around land access and housing, as well as looting of shops owned by African migrants.

Half the population lives below the upper poverty line (monthly income of R1,183 or less), with 53% of households in Overstrand in the low income category (OLM, 2021:57-58). Unemployment (based on the official definition) stood at 21% in 2019 (prior to the Covid 19 pandemic) (COGTA, 2020). The pandemic and social responses to it led to sharply increased rates of unemployment and food insecurity across the country (Spaull *et al*., 2021). Although nationally this appears to have eased more recently, local actors consider the situation to be dire:

> "Look, basically, there are no jobs. We've got to just accept that ... If there are 1 000 jobs in this area … I would say there's about 8 000 people looking for those jobs. Jobs are gone. The people who live here, they come out of school, 40% don't even see a high school. They don't go. I don't know where they go … The only thing that we can do is we can say, how do you create activity within your own community now?" [Ov13]

> "You see the unemployment. There's a lot of men sitting around, they can't find work. And young men that are not old or sick. They're very capable, but they just can't find work. Stanford, there is no work here. There's no industry here. There's seasonal work on the farms. That's for, what, a month, two months and then it's gone." [Ov15]

[3] Although the authors' preference is to use 'black' to include both black African and coloured (mixed race) people as a political term for those oppressed under apartheid, political dynamics in South Africa since 1994 have reproduced these racial divisions with material consequences, and thus disaggregation of information is of use at times.

1.3 Economy

Overberg District had a long-term average growth rate of 1.17% from 2009-2019, which is lower than South Africa as a whole (COGTA, 2020:15). The district is a minor contributor to the Western Cape economy, at just 3.5% of Gross Domestic Product (GDP) (ODM, 2017:31) with a declining contribution over the past two decades, notably in agriculture. The tertiary sector (community services, trade, finance and transport) contributed 57% of Gross Value Added, the secondary sector (manufacturing, electricity and construction) contributed 29%, and the primary sector (mainly agriculture) contributed 15% in the district in 2019 (COGTA, 2020:15). However, the district does contribute to South African agriculture: it is a major producer of winter cereals; it ranks 7th for the number agricultural workers per district, and Theewaterskoof ranks 4th among LMs (Stats SA, 2017:10-11).

Significant secondary and tertiary activity is related to the wider agri-food complex including agro-processing and transport of agricultural produce (ODM, 2017:77). The informal sector is estimated to contribute 17-20% in the primary and secondary sectors, and 39% in trade (COGTA, 2020:16-17). The main employment gains since 2004 have been in wholesale, retail, catering and accommodation, and then finance, insurance, real estate and business services (FIRE) (ODM, 2017:78), consistent with high levels of urbanisation. The largest employment losses have been in agriculture.

Like the district, Overstrand LM has a predominantly service economy. The top economic sectors are FIRE (24% GDP, 17% employment); wholesale and retail trade, catering and accommodation (20% GDP, 27% employment); and manufacturing (15% GDP, 9% employment). Eco-tourism and agri-tourism are a significant part of the services economy, and Overstrand has 61 accommodation establishments, 26 restaurants and 26 wine farms (OLM, 2021:250). The tourism industry in the area was hit very hard by Covid. Almost 80% of formal jobs in Overstrand, including in agriculture, are semi- or low-skilled (ODM, 2017:81).

Agriculture, forestry and fishing contributed 7% to GDP and 12% to employment in Overstrand 5 years ago. Some consider that agriculture does not have strong growth potential, with agriculture the second smallest sector in the local economy (OLM, 2021:235, 249). However, many strategic documents and plans indicate a key role for agriculture and agro-tourism for employment and economic growth in the area, and the upstream and downstream economic linkages should also be considered. Primary agriculture, forestry and fishing products constituted 72% of total international exports from Overberg DM in 2015 (ODM, 2017:80).

An estimated 45% of household expenditure leaks out of the Overstrand economy due to "imported" goods and services demanded by consumers living in the municipality (OLM, 2020:37), including 86% of manufactured goods (ODM, 2017:80) There is a recognised absence of detailed consumer spending data (OLM, 2020:37).

Land in the Overstrand is mainly privately owned, with portions of state-owned land for nature reserves, notably to the west of the municipal area (the Kogelberg Biosphere Reserve) and along the coastline between Hermanus and Gansbaai (Walker Bay Nature Reserve) (see Annex 2). Protected and natural areas constitute the largest land use in the district. Overstrand has extensive agricultural activities on the coastal plain, with forest plantations, smallholdings and larger agricultural holdings including wine farms in valleys of the mountainous areas. There has been some replacement of agriculture with other land uses including game lodges, resorts, smallholdings, farm stalls, guest accommodation, extensive industries and agro-industries (OLM, 2020:56). Annex 3 indicates land use in Overstrand.

Information on land redistribution and black land ownership is sketchy. According to a 2007 survey, there were 654 emerging farmers on 13,599 ha in the Overberg (around 4% of the estimated 330,000 ha of district arable land) (de Satge, 2013). A 2017 progress report by the provincial government indicated 11 land reform projects in Overstrand since 2014 (Western Cape, 2017). Official planning

documents such as the Integrated Development Plans (IDPs) and Spatial Development Frameworks do not discuss land reform in much detail at all, suggesting limited redistribution of land ownership in the area.

1.4 Institutional

The district municipal headquarters are in Bredasdorp. The Democratic Alliance (DA) is the largest party, followed by the African National Congress (ANC). In the 2021 local government elections, the DA won 17 seats in Overstrand, ANC 4, and other parties 6. There are no traditional leadership structures in the district or the province. Overstrand LM has its headquarters in Hermanus, with three administrative areas: Hangklip-Kleinmond, Greater Hermanus, and Gansbaai-Stanford, with decentralised offices in Gansbaai, Stanford and Kleinmond. In South Africa, municipal responsibilities in the agri-food sector are limited but not insignificant (De Visser, 2019): they include local tourism, trading regulations, fencing, markets, municipal abattoirs, waste disposal, and street trading. The 2013 Spatial Planning and Land Use Management Act (SPLUMA) also gives municipalities power to conduct their spatial planning and land use management.

Wards have statutory elected committees with 10 representatives per ward, based on geographic and sector representation. The ward committees work with the councillor to coordinate and manage ward planning and implementation, and represent the ward on community-based planning and IDP task teams in local municipalities.

2. Overview of the local food system

Key sub-sectors in the Overberg agri-food system are winter grains and livestock; horticulture and wine; wildflowers; and abalone and fishing. The district is a major producer of wheat and barley, apples and canola in South Africa. Overstrand is the most significant protea (the iconic fynbos wildflower) production area at provincial level and in the country (ODM, 2017:82). Most production goes out of the district into regional (Cape Town, Gqeberha), national and global markets. There is some agro-processing in the area before products leave.

2.1 Winter grains and livestock in the Rûens

The Middle Rûens is a winter grain production area, running mainly west-east across Theewaterskloof and Swellendam LMs. The area is a major producer of wheat, and the main producer of barley and canola in South Africa, with lucerne (alfalfa) and pasture for sheep and dairy cattle. More recently, there is some diversification into citrus and nuts on portions of farms [Ov05].

The area is one of the last refuges of Renosterveld (a sub-category within the fynbos biome) and contains some of the largest and most intact remnants consisting of four different vegetation types, all of which are Critically Endangered. The majority of fragments are less than 80 ha in size, and almost all remnants are on privately-owned land[4].

> "All biodiversity [is] gone. There are a few little spots of renosterveld left, but this [the Rûens] was all renosterveld. There's 4% or 5% left of the indigenous renosterveld vegetation" [Ov07]

A typical farm in the area has wheat, barley, oats, canola, and some lucerne, peas and triticale. Rotations are done with lucerne pastures for sheep grazing for 4-6 years, and 3-5 year wheat and barley rotations, with lupins or canola in between [Ov06]. Farms are large, with a minimum farm size of 800 ha and concentration and land consolidation over the past decades [Ov05, Ov06]. Smaller farmers are leasing or selling their land. Broadacre crops like wheat and canola are not amenable to

[4] https://overbergrenosterveld.org.za/

small-scale production as they have high production costs and economies of scale are needed to remain commercially viable. Production is highly mechanised e.g. combine harvesters. There is high adoption of Conservation Agriculture (CA, see below) and precision farming. Production is almost entirely no till now. Some planters are imported but there are also two local manufacturers. There have been technology improvements with implements getting more effective, leading to yield increases [Ov06].

Overberg and the Swartland (north of Cape Town) are the main wheat producing areas in South Africa, accounting for 85% of wheat produced in the Western Cape (which accounts for 75% of national production) and 27% of agricultural employment in the province. Most wheat produced in South Africa is for human consumption. There has been a drastic decline in the area planted but an increase in efficiency, productivity and quality. Nevertheless, South Africa remains a net importer of wheat (Stead, 2021:24). Wheat goes to wherever millers want it, including Cape Town, Paarl, Gqeberha or elsewhere. Millers are mostly large corporate entities. There are some small millers in the Overberg who sell flour to local urban areas and beyond and some road stalls for direct sales, but this is all relatively small scale [Ov06].

Overberg is the main barley producing area in South Africa. Production conditions for barley, including winter rainfall, are only found in a small area of South Africa, including the Overberg. Barley is used mainly for malt for beer, with a small amount for animal feed. AB InBev (former SAB), with a malting facility in Caledon, is the main buyer and offers a guaranteed market for producers. AB InBev issues trading tenders every few years. The grain is malted in Caledon and then sent to Cape Town for brewing. Otherwise it goes to a malting facility in Alrode in Gauteng. A few local artisanal breweries are supplied with barley but they do not account for a significant share of the crop. Overall, South Africa is a net barley importer (Stead, 2021:27; Ov06). Some barley from Bredasdorp is sent by rail to Caledon and even Cape Town but transport is mostly by truck, causing significant damage to smaller roads over time. Railways exist but there is chronic mismanagement (Transnet). Rail is preferable for storage operators as it is cheaper, but currently there is no choice [Ov06].

Overberg is also the commercial hub of canola production, which is generally sufficient to meet local demand though with small amounts of imports in the past decade. Yields have increased over time, with record harvests recently. Southern Oil (SOILL)[5] in Swellendam introduced canola into South Africa in 1993. They had the only canola oil press in South Africa in 2015. They contract with around 500 local farmers. They produce edible oils (B Well brand) and related products with national supply to manufacturers, retailers and restaurants, with occasional small exports into the Southern African region. Most oil cake is sold for animal feed to farmers in the Western Cape (including Overberg), and some for organic fertiliser. Farmers transport the product to silo owners who then take it to SOILL processing facilities, after which the processed product goes to manufacturers and retailers.

Acorn Agri & Food[6] dominates the grain sub-sector in the area. It was established as a merger between Acorn Agri and Overberg Agri in 2018. Acorn Agri is an investment company formed in 2014 with Overberg Agri as its first investment. It also has investments in Montagu Dried Fruit and Nuts, BKB (former cooperative wool and mohair brokers), Lesotho Milling Company and Grassroots (health snacks). Overberg Agri[7] is itself a product of a merger in 2005 of companies formed out of the former Caledon (1918) and Bredasdorp (1924) farmers' cooperatives following agricultural deregulation in the mid-1990s. A major milling and equipment company in Moorreesburg (Moorreesburgse Koringboere), in Swartland, joined in 2011. Overberg Agri has nine divisions covering grain storage and handling, input supply through retail outlets (11 in Overberg), and diverse financial and agricultural services. It has eight grain depots in Overberg, including seed sales at

[5] www.soill.co.za
[6] https://www.acornagri.co.za/
[7] https://www.overbergagri.co.za/

Bredasdorp and Caledon. Overberg Agri works with about 200 farmers in Overberg, which is the majority of farmers in the area, and about 100 in Swartland, providing a comprehensive package of services including extension and management, with a focus on grain, pastures and animals [Ov06].

There was an expansion of grain processing and storage in the area in the past few years, with new siloes, on-farm silo bags and bunkers. Increasing yields have required more storage but new siloes are very costly to construct. South Africa has followed a worldwide trend to cheaper storage such as bags and bunkers, with lower capital expenses but slightly higher repairs and maintenance. There are some direct farm sales to millers from on-farm storage but not in significant volumes [Ov05, Ov06]. Farmers harvest the grain and deliver to the siloes where it is graded and stored. Buyers collect, and mostly manage the logistics. Overberg Agri also trades on its own account to some extent although this is more prevalent in the Swartland. In Overberg it constitutes around 15-20% of total volumes [Ov06]. Wheat and barley prices are derived from the South African Futures Exchange (Safex)[8], but other grain sales are based on spot markets [Ov05]. Most waste from the siloes is used for animal feed. It is graded first to see if standards are ok. Unusable grain (e.g. with pathogens) goes to the municipality for safe disposal [Ov06].

Livestock in the Overberg is mainly sheep and dairy cattle, with horses and lesser production of pigs, goats and ostriches. Sheep are dual purpose (mutton and wool), mainly merino or Dohne merino breeds. Ninety percent of wool production is exported, while South Africa is a net importer of mutton (cheap, frozen portions) with a few exports (fresh or chilled carcasses). Cheap meat imports tend to undercut local producers.

The dairy industry is dwindling in the area, with around a tenth of the number of active producers compared with two decades ago. Only those with permanent water and irrigated pastures are doing dairy now [Ov06]. While there is growth potential for livestock, especially in the informal sector, stock theft and drought are key challenges.

Acorn Agri & Food is also dominant in the commercial livestock sphere, through ownership of Overberg Meat (formerly Bredasdorp Slagpale) which incorporates a sheep and cattle abattoir, and distribution to retail and wholesale; and processed meat through Overberg Speciality Foods. There are a number of smaller abattoirs but these generally do not comply with the Meat and Health and Safety Acts. They face phytosanitary issues, lack of adequate infrastructure and poor vet services. There are a few small local feed manufacturers but the sector is mostly corporate dominated.

2.2 Horticulture and organic production in Overstrand

In the Overstrand LM, the emphasis is on horticultural production and biodiversity conservation activities because efforts are underway by actors in the area to integrate a series of activities adopting and oriented towards agroecological practices. These are especially related to organic farming, a Participatory Guarantee System (PGS), livelihoods initiatives around food production, alien vegetation clearing and wildflower harvesting linked to biodiversity conservation activities, and engagement with local authorities in efforts to coordinate and mutually support plans and activities. As earlier indicated, protected and natural areas constitute the largest land use in the district. However we will start with agriculture as the focus of the paper is on food systems.

Agricultural land use covers around 20-25% of land in the Overstrand (see Annex 3). Livestock related activities dominate agricultural land use in these zones, with lucerne, natural grazing and planted pastures constituting around 75% of agricultural land use in the area, followed by winter grains at about 16%. However, the area is better known for intensive, high value production of wine grapes and wine, proteas, vegetables and agro- and eco-tourism (OLM, 2021:250). Agriculture is still mainly under conventional production.

[8] https://sashares.co.za/safex/#gs.zyifzj

"In general the [farmer association] meetings are sponsored by agri-business, big business that's all focused on the very conventional chemical agri stuff. There's not that much of an obvious change in any of it." [Ov08]

Amongst the larger horticultural producers are Madron Farming in the Hemel-en-Aarde Valley north of Hermanus, with farms there and elsewhere in the area, and a packhouse producing and packing leafy vegetables for national distribution to commercial retailers. There is interest in regenerative agriculture at Madron [Ov04]. Haygrove Berries is a large producer in the Hemel-en-Aarde Valley, also supplying to large retailers. ACG Fruit is another large commercial operation in the area, producing table grapes and soft citrus for export. It was owned by Acorn Agri & Food but was sold as part of a broad-based black economic empowerment (B-BBEE) transaction in 2021 (Acorn Agri Food, 2021:26) to Newco (which now owns 100% of ACG, and 25% of Health Food Group) with African Rainbow Capital[9] as majority partner. Overberg Agri does provide inputs and mechanisation to fruit and wine farmers in the Overstrand, although they don't handle the product [Ov06].

There is a growth of organic farming and more ecological ways of thinking in the area:

> "The area pulls all the conservationists and eco and organic guys, but then you also have the old, conventional farmer who dominates the farming associations, the political framework. Or at least it's starting to change a bit, that political consciousness. I think a lot of those eco guys have been seen as the hippies of the area and it's slowly and slowly becoming more mainstream." [Ov01]

> "To generalise it, it's a younger generation that have come from, they haven't had generations and generations on the land that they've done it like this and it must keep on going in the same way. Basically it's a group of younger people that are actually very keen on friendships and learning from each other." [Ov08]

> "There are no farmers here close by that spray a lot of stuff that I need to worry about drift. In fact, we are influencing many of the farmers around here. A lot of these farmers around me are now talking, maybe they should start doing this a bit differently. We definitely see some of that." [Ov02]

Wine farming, organic production and agro- and eco-tourism are interlinked in the area. Hermanus, Stanford and the Agulhas Wine Triangle are three of the five distinct wine production regions in the Overberg (see Annex 4).

The more mature organic farms have their own marketing systems in place. They contribute to the PGS and shared box scheme but also do their own marketing (Table 1). Some farmers have 20-75% international exports. Most are almost 100% local including informal traders. Depending on the diversity of their produce they try to send the best into local or Cape Town markets for a premium price. Local is defined to incorporate Stanford, Hermanus, Gansbaai, Pearly Beach and the farms (20-40km radius around Stanford).

Table 1: Local market channels for organic products

Box schemes
Overberg PGS box scheme (discussed in more detail below)
One farmer started his own organic box scheme delivering in a 100 km radius, including Agulhas, Bredasdorp, Napier, Kleinmond, Hermanus, Gansbaai and Pearly Beach, with about 100

[9] https://africanrainbowcapital.co.za/. 100% owned subsidiary of Ubuntu-Botho Investments which is a Sanlam empowerment vehicle. Sanlam is a financial institution that played a historically central role for Afrikaner capital under apartheid.

customers. He was doing door to door deliveries but it was very expensive. He tried decentralised pick up points but there was lack of organisation amongst customers and the market couldn't sustain. There is lack of information amongst consumers. The box scheme was discontinued. [Ov02]
Farmers' markets Hermanus weekly farmers' market. This is privately run. Transport costs are lower than for a box scheme. There is demand, and the market can absorb more production. Farmer 2 generates R25-30,000/month in summer, with the proceeds covering all his wages and some input costs [Ov02] Stanford is too small for a regular farmers' market, though there are occasional small markets. Gansbaai has a municipal market but it is also too small [Ov02]
Informal traders They require volumes and consistency of supply [Ov01]. Local African speciality market for covo, rape, chard, pumpkins, with strong demand from Zimbabweans and Malawians. These crops are quick and easy to grow. Farmer 2 produces organically by default, but does not sell specifically as an organic product in this market. He sells to a bakkie trader who collects from a pickup point in Stanford, who then sells in townships. The trader collects orders on WhatsApp and sends the order to the farm. They have placed a first order of 6,000 bunches of chard, 6,000 covo, and 6,000 rape per week. The farmer will start with 1,000 each and test the market, learn on logistics etc [Ov02]
Formal retailers Gansbaai – Super Spar, OK Foods, Taste Dilemma Hermanus – The Gallery Café and Deli, OK Food Gateway (has a section for locally-sourced products) Stanford – OK Minimark. Close enough for direct sales. Bredasdorp – Varsmark FPM There are some pop up local health stores, smaller retailers and delis interested in organic products. When available, they buy at a premium. There is some hesitation from farmers with supermarkets on price and consistency. The focus is on diversity instead of volume. Supermarket in Stanford – most groceries are from listed suppliers such as Nutripick and MNR, and the corporate distribution centre. But they do some local procurement especially organic, including cheese, eggs, some fruit and vegetables, and meat (not from Stanford, but locally). They only stock small quantities of organic because of limited local market demand, as they cater for all market categories. Customers generally buy small quantities, there is no big grocery shopping. There is demand but for a wide diversity of products in smaller volumes. They receive deliveries 2-3 times a week [Ov12].
Restaurants In Stanford some are into local sourcing, organic, traceability for a premium [Ov04]
Food relief A portion of the Overberg PGS box produce is allocated to free food parcels managed by Food 4 Thought, a local non-government organisation (NGO) Other local food relief programmes are run by Rotary and the LM. Rotary purchases groceries on discount from Savemor in Thembelihle, with supplementary food donations including from local farmers.

Farmer comments on local markets:

> "I do agree with localisation but farmers also need to survive. This means distant markets" [Ov02].

> "People are suspicious also of things that are local, I find. They don't know what's gone in, they want their stuff all square or round or predictable and packaged in a certain way. One's really up against a huge, huge institutionalised system" [Ov07].

Table 2: Cape Town, national and export markets

Cape Town markets Some demand from independent retailers in Cape Town and elsewhere but small quantities, long distances, and excessively precise product specifications. Oranjezicht City Farm Market for PGS box. Any excess to Epping Fresh Produce Market (FPM) in Cape Town, but long distances, and lots of produce is thrown away without any income. Farmer 2 was selling to a distributor in Cape Town for higher end restaurants in Cape Town and Stellenbosch, and ships at Cape Town harbour. These are lucrative markets. But the contract collapsed with Covid. A hectare of greens valued at about R1 million was chopped into the soil. [Ov02]
National Garlic– Farmer 2 aims to plant 4-5 ha. He is still multiplying seed plants to reach the necessary scale of production. He will target the domestic market as the national price is more than double the export price as South Africa is a net importer. They will supply directly to supermarkets and export that which can get a higher price than domestically. However he has had bad experiences with domestic retailers (e.g. unilateral price changes) so he is wary [Ov02].
Exports Fruit and vegetables, flowers and wine through Cape Town airport With lower volumes farmers have to share logistics with non-organic producers and they lose the organic premium on vegetables, though the export market is still lucrative. European Union (EU) certification is required for organic exports. The SAOSO standard is recognised by IFOAM and prepares farmers for this certification. All countries that recognise IFOAM accept the SAOSO standard except the US and EU [Ov01]. Export proteas will face pressure from the EU on chemical use and wider environmental issues [Ov08].

Box 1: Overview of abalone/fishing

Although there are no agroecological initiatives in the fishing sub-sector (beyond abalone certification standards being developed by WWF), it is an important part of the local food economy. The Overberg has four proclaimed fishing harbours in Arniston, Struisbaai, Gansbaai and Hermanus, the two latter being in Overstrand LM. Fishing includes subsistence fishing communities and large-scale commercial activities in abalone farming and kelp harvesting (feed for abalone).

Aquaculture is mostly focused on high value abalone products, with 95% of production exported. There are concerns about overreliance on Asian export markets, and production is very costly (OLM, 2020:22). The value chain includes stock supply, feed supply (mostly algae, seaweed and artificially formulated feeds), production (land or water based), distribution and sale. Hermanus is the 'abalone hub' of South Africa, with at least three corporations operating in the area.

Abagold has four grow-out farms and a canning and processing facility in Hermanus, with 240 employees in total. I&J has been farming abalone at a land-based aquaculture facility on the Danger Point peninsula near Gansbaai since 1994. Aqunion (owned by TerraSan Group, a fishing investment group based in Cape Town) has two abalone farming and processing operations in Gansbaai and Hermanus.

'Poaching' and illegal/informal harvesting dwarf legal production and pose a significant threat to the formal industry. There are allegations of gang control over poaching networks, with funds channelled to weapons and drugs. In desperation, experts have proposed "abandon[ing] efforts to control illegal abalone harvesting, allowing the species to decline beyond levels that are viable for criminal enterprise" (Pinnock, 2022). The idea is to allow the system to collapse to clear out the nefarious elements, and then hopefully rebuild later.

Despite this threat, government had plans to develop Aquaculture Special Economic Zones in Hermanus and Gansbaai; a proposed Hermanus Aquapark Farmer Production Support Unit (FPSU) to develop a small abalone and fish handling and processing facility with cooling, freezing, drying and packing, dispatch of produce to processing facilities; and a Rural-Urban Market Centre (RUMC) local market facility to sell produce locally as part of the national government's Agriparks programme (OLM, 2021:242). However, these have not yet been developed and indications are that the Agriparks programme is not being implemented in some places and has fallen by the wayside following the end of the Zuma administration in 2018.

3. Experiences of transition to agroecological systems

Transitions to agroecology initiatives are considered specifically in the winter grain and horticulture/biodiversity conservation and NRM sub-sectors. Although the latter are not specifically about the food system, they can be considered an integral part of the formation of an agroecological territory, following Wezel *et al.*'s (2016) definition of such territories as constituting three major domains incorporating changes in agricultural practices, conservation of biodiversity and natural resources, and development of embedded food systems. Conservation and natural resources initiatives are integrated with food system initiatives in the sub-sectors to some extent. The sub-sector initiatives in grains and horticulture are not connected with one another at this stage. Biodiversity conservation and NRM may be a point of inter-sector integration.

3.1 Conservation Agriculture

CA is a response to soil degradation in conventional farming systems caused in particular by soil tillage and the removal of crop residues, in the context of rising input prices and low commodity prices (Strauss, et al., 2021). CA is based on three core practices: intercropping and/or crop rotations (leading to diversification), minimal soil disturbance (low or no till), and permanent ground cover (crop residues or living plants). More recently livestock integration is becoming a feature.

The initial conversion to no till and CA in the Western Cape was farmer-driven and occurred in the 1980s. For winter grains in South Africa, the Wheat Board historically fixed prices on a cost-plus basis, which encouraged production in marginal areas and a shift to monocultures. The Wheat Board was abolished in 1996 as part of national agricultural deregulation, and farmers were exposed to global competition. This resulted in crop diversification and bolstered crop rotations and the adoption of CA in South Africa (Stead, 2021:1-2). The provincial Department of Agriculture initiated a CA programme in the Swartland in 1996, and three long-term trials were started in the Southern Cape in 2002 (Strauss, *et al.*, 2021:3) at the Tygerhoek Research Farm[10] at Riviersonderend in Theewaterskloof LM.

The approach has shown significant adoption in commercial farming systems in South Africa over the past few decades. The adoption rate is around 40% for each of the core practices, although only around 25% of farmers have adopted all three practices simultaneously. The Western Cape has the highest adoption rate in the country (Strauss, *et al*., 2021:2), with an average of 51% of grain farmers adopting all three legs of CA. Ninety five percent are doing crop rotation, though fewer keep stubble in the fields [Ov05]. Winter grain farmers in the Overberg have become core adopters of CA, with some of them shifting towards regenerative agriculture which can be considered to be similar to CA but which explicitly includes livestock integration and moving away from synthetic inputs. Currently there is some integration with sheep, with plans to integrate dairy and beef cattle over time [Ov05].

[10] https://www.elsenburg.com/tygerhoek-research-farm/

Conservation Agriculture Western Cape[11] was established in 2011 as a forum for farmers and other actors to deliberate on CA. Activities include an annual conference, study groups and farmers' days. CA is also part of the agricultural curriculum at Stellenbosch University now. There is growing interest especially from younger farmers:

> "[They are] starting to ask the questions of soil and soil health and they realise the importance of doing things differently … I can without a doubt say that there is an aura of change … We're trying to tell guys, listen, pressure is coming from Europe … Once it starts happening there, it will happen here" [Ov05].

In addition to the core practices of cover crops, crop rotations, minimal or no till, ecological practices of CA include legumes for soil nutrition, high-density grazing, and integration with biodiversity conservation. "The aim is for carbon content of the soil when it was under fynbos, which is 3-5% depending on the area" [Ov05]. The trials are developing cover crop mixtures prepared specifically for the conditions, with evidence that yields from mixtures perform better than single pastures, with nutrient variety for livestock grazing there.

> "We plant mixes. I prefer 70% grasses or cereals and 30% brassicas and legumes. Because the brassicas and legumes in the summer months break down very fast, where the grasses tend to take a little bit longer, so they keep your soil cooler and protect your organisms under the soil a bit longer and stop erosion of the soil. So, 70% cereals and then your legumes, I would put one or two nitrogen fixing crops in a mix. But I try and have different root types, like a bulb type and a taproot and a fibrous root." [Ov05]

Rotations basically use the crops mainly produced in the area, so wheat, barley, canola, oats, and then pastures like lucerne and medic (an annual legume) pastures. Some alternative crops like linseed and chickpeas, fava beans and lupins have been tried and are viable, although there are challenges with appropriate cultivars and royalties on intellectual property (IP). These crops contribute green manure, grazing, and some sales. Farmers are noticing they can add less nitrogen. On the trial farms, spraying is done before planting but not again during the season. Pests and diseases are managed through active scouting, and sprays are only used if this is economically necessary to save the crop. Pollinator strips are planted. A huge growth in soil life has been detected, as well as a return of birds [Ov05].

High-density grazing / holistic land management is being tested, where animals are kept on a small area, they graze intensively for a short time, and then camps are moved in rotation. The animals fertilise and trample the soil, then it is rested. The carrying capacity for the area is around 3-4 small stock units per ha, but with high-density grazing this can be up to 500 units per ha [Ov05] (see Savory and Butterfield, 1998; Schwartz, 2013 for more detail on holistic land management).

As a distinct process but with some overlap, the Overberg Renosterveld Conservation Trust (ORCT)[12] was established in 2012 to manage and conserve renosterveld through a combination of land purchases and conservation easements, linking fragments through the restoration of corridors, and awareness-raising amongst landowners. Tygerberg Research Farm is aiming to bring natural corridors into their trials. This signals a potential expansion of the production-based CA initiative to the landscape level, bringing in elements of wider NRM. There is also a potential connection to the Agulhas Biodiversity Initiative (ABI, see below) which is considering the development of a district-wide biosphere reserve.

There is a long catalogue of evidence-based benefits of CA, including improved soil water retention and reduced erosion; reduced leaching of chemicals into the catchment; improved soil quality, health and fertility; increased nutrient use efficiency; increased yields and crop productivity with no strong

[11] https://blwk.co.za/
[12] https://overbergrenosterveld.org.za/

evidence of yield losses during conversion (which takes up to 5 years); reduced input costs because of less synthetic fertiliser and pesticide use; weed suppression; reduced environmental degradation and increased biodiversity (Stead, 2021; Ov05; Ov06). Overall, CA practices have improved the sustainability and viability of the commercial farming industry in the area [Ov06].

Despite these benefits, there are a number of challenges facing farmers who want to convert to CA production systems. In the Swartland, the main driver of CA adoption was herbicide resistance. Nevertheless, weed control remains one of the biggest management challenges. Herbicide use is still considered to be the most effective weed management option but is resulting in herbicide-tolerant weed species which threaten the CA production system. This requires an integrated weed management approach (Strauss, *et al*., 2021). In the Overberg, "post-emergence, selective grass herbicides don't work here anymore" with resistance especially on the grass weeds (ryegrass, brown grass, wild oats etc). This is a big challenge globally, not just in South Africa. Rotations with pastures and broadleaf crops are necessary to break up the resistance [Ov06].

Another challenge is the difficulty in convincing farmers to replace a cash crop with a cover crop to build soil fertility. "You can't be sustainable if you're not profitable. I can do everything that's nice, but if I don't make money, I'm not going to farm, the next guy is just going to take the farm and do what he wants" [Ov05]. "Rotations should generate margin to be viable" [Ov06]. It is easier to convince those with animals to plant pasture which contributes to extra feed. There has been a move away from the term 'cover crop', as this has a negative connotation amongst farmers, and towards the concept of a 'utility crop' [Ov05]. Farmers tend to listen to company reps for advice. There are no independent agronomists. But company reps get commissions on sales of their products. Many farmers don't know what is happening on their farms, and they just blindly follow advice [Ov05].

Lack of availability of alternative inputs is another issue facing commercial farmers trying to adopt CA. Equipment is very expensive and farmers are mainly left to do it on their own. There are no conversion subsidies on offer. Generally there are high barriers to entry in commercial farming. It is highly costly to set up and maintain, resulting in consolidation and increasing scale [Ov05]. Although there is a push for organic and bio-friendly seed treatments and fertilisers, and generally a reduction of input costs, alternatives are not readily available at this stage and effective commercial crop production remains reliant on synthetic fertilisers and pesticides [Ov06]. There is a need for alternative crops and cultivars. There is no local breeding of canola, lupins, lucerne, medics etc. Many seed imports are not adapted to local conditions and there is limited research unless farmers do it themselves [Ov06].

3.2 Overberg Participatory Guarantee System (PGS)

The Overberg PGS started in 2016 and is affiliated to PGS South Africa[13], a national network established in 2011 to assist with local market access for organic and agroecological farmers, supported by the South African Organic Sector Organisation (SAOSO)[14] PGS Pollinators' Programme. In the absence of a government-approved organic standard, SAOSO has developed a local Standard for Organic Production and Processing (SAOSO, 2020) which is included in the IFOAM Organics International[15] Family of Standards. Principles underpinning the standards have a strong overlap with agroecological principles. They include on-farm wildlife refuge habitats, soil and water conservation, precautionary principle with regard to technological deployment, sustainable management of the commons, organically produced genetics (plants and animals), locally appropriate varieties, crop diversity, biological pest and disease management, restrictions on processing methods, animal welfare, separation of organic and non-organic products throughout the supply chain, and social justice amongst others.

[13] https://www.pgssa.org.za/
[14] https://www.saoso.org/
[15] https://www.ifoam.bio/

PGS is a second party organic certification system that provides locally focused organic quality assurance that certifies producers based on active participation. In essence, diverse local actors (farmers, consumers, retailers and other actors in the local system) monitor farms for compliance and provide support through periodic farm visits. The system is based on trust and social networks, and is a cheaper and more accessible quality control assurance system, with an emphasis in South Africa on smallholder farmers and local markets. On the basis of meeting SAOSO standards, farmers or groups of farmers can affix a logo to their product indicating PGS compliance. Potentially this can offer a premium in the market, although it may take time to build up retailer and consumer knowledge and acceptance of premium prices.

Box 2: Conversion to agroecological practices

On Farm 1, two existing blocks of grapes were kept conventional at the start for an income. The blocks that were converted to organic showed a sharp drop in yields before starting to increase. But yields do not need to be as high as conventional production because of the organic premium.

"The main issues here, very out when we took over, were high or bad calcium-magnesium ratios, very low organic matter within the soil, drenched with inputs and needing to build back topsoil and cover cropping techniques, so we are trying to implement no-till techniques" [Ov01]. They stopped using fertiliser and introduced compost, although with some amendments to correct ratios as needed (e.g. lime, sulphur magnesium, or potassium rock).

> "Where we lacked maybe a bit of foresight was the amount of compost requirement that we would need. Initially we were quite strong on trying to produce our own, but without the machinery to produce it, we realised the cost implication of producing good-quality compost is actually just too much. We can't do it on the farm. Doing it on the farm, it was working out, when I worked the maths out with labour and hands, it was probably about R920 a ton. Bloody expensive." [Ov01]

They are now purchasing a mix of mushroom compost and kraal manure from local farmers and suppliers in the area. The current need is 10 tonnes/ha, and with a woodchipper and cover crop they will try to bring it down to 4-6 tonnes/ha. Soil carbon is already increasing, from 0.5 - 1.3% at the start to 3.2% on average now. Conversion to fully organic production is anticipated to be a five to seven year process.

The Overberg PGS procures organic fresh produce from local farmers and a community garden for a box scheme to consumers locally and in Cape Town (see Table 3 for profiles of some PGS farmers). Wealthy consumers cross-subsidise cheaper boxes for resource-poor consumers. Initially four organic farms joined up, with numbers growing to 12. Although there was interest from some producers in Cape Town to join the Overberg PGS as a result of internal issues with the PGS there, the Overberg PGS has been trying to keep the farming base within the district. Given the distances, there are plans to split the PGS and create a separate one linked to the Greyton-Genadendal Transition Town[16] in Theewaterskloof LM and the Valley Food Gardens initiative there. They have already started their own visits and have a sub-group which will become a separate PGS. "[There are] a lot more small-scale farmers with land and title within that area, so they have by themselves expanded to about ten farms, nurseries, smallholdings, gardens" [Ov01]. The Overberg PGS will remain with 9 farmers. Farm visits are conducted as part of the PGS model although currently mutual support is mainly around some transport sharing to market but not much else. Overall the PGS needs dedicated coordination (a paid individual) that is not there yet, but which could potentially come from membership fees or a levy [Ov08].

[16] https://www.greytontransitiontown.org.za/

A key part of Overberg PGS activities are efforts to bring community collectives into economic processes that are usually restricted to well-resourced private farmers and landowners. Food 4 Thought[17] is an NGO that has renovated and run a school for the past 20 years for scholars from Die Kop informal settlement in Stanford in the absence of any government school. In 2020 they occupied public land next to the school to start a community food garden, and now have a lease on the land from the municipality. There is municipal support for a community-based agricultural programme with good governance and which also acts as a buffer to limit informal housing expansion onto unused land [Ov01].

Zizemeleni Cooperative was formed to run the garden and contribute to the PGS box and food relief efforts. The cooperative is being positioned as a point of integration for various programmes and initiatives, including as a coordinating hub for other cooperative ventures in alien vegetation clearing, biomass processing, sustainable flower harvesting and others, linked to the MAGIC process for engaging with local authorities (see 6.1 below). The cooperative has an independent Board, consisting of cooperative members and representatives from other local actors e.g. the ABI. Food 4 Thought provides administrative and mentoring support, and to ensure the gardening is functioning. The longer term goal is for the cooperative to supply most of the produce for the PGS box scheme.

As discussed above, the majority of farmers participating in the PGS have their own markets and the PGS box is just one small part of their overall sales. Farmers decide what to contribute to the box. There are a range of boxes, from R150-R500 weekly. They include diverse products grown by participating farmers, including fruit, vegetables, eggs, and products processed on farm. This may be supplemented by purchases from other certified organic farmers locally and further afield (e.g. Langplaas in Brits in North-West province) from time to time based on requirements [Ov01].

Produce is delivered to storage in Stanford weekly. The box is then assembled and delivered weekly to 20-50 customers in Stanford and surrounding areas and Cape Town. About 45-50% of sales are at the Oranjezicht Market at the Waterfront in Cape Town. One of the participating farmers takes boxes to Cape Town as part of their own delivery process. The objective of the PGS box is not to make big money, but to sustain small producers. Once producers are paid, any profits are returned to Food 4 Thought to subsidise food relief [Ov01, Ov14]. Overall, the box scheme makes only a very small contribution to local food supply, but indicates one aspect of a multi-dimensional niche activity with potential for scaling out over time.

[17] http://food4thought.org.za/

Table 3: Overberg PGS farm profiles

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
Ownership	Family Trust, farm purchased 2016. Cooperative established for aspects of the farm.	Family Trust. Owned for more than 20 years. Subdivided and portion sold 18 years ago.	Purchased farm 9 years ago	Started farming in 2016, started chickens in 2018. Currently leasing land but insecure tenure.	Cooperative. Land leased from municipality via Food 4 Thought.
Farm size and land use	273 ha wild fynbos, 120 ha earmarked for agricultural production. Currently 17 ha grapes, 4 ha figs, 3 ha seasonal veg	210 ha. Most of the farm is wild fynbos, with 60 ha that can be used for production. Currently 5 ha of organic vegetables and developing 1-2 ha granadillas, aiming for 4-5 ha garlic	123 ha, mainly rocky mountainous fynbos. 9 ha planted proteas, <1 ha organic vegetables, limited grazing land	Chicken coops with 2 ha grazing camps. Currently 5 coops and forest area for retired birds. Aiming for 10 ha for breakeven.	3 ha lease with potential for another 10 ha at the site. About 1 ha currently under vegetables.
Products and processing	Wine, figs, vegetables, wildflowers. Wine production using leased cellar for now.	Western vegetables African vegetables – covo, rape, pumpkin, chard Developing garlic and granadillas	Cultivated proteas, vegetables Small number of horses, cattle and goats 3 cottages for accommodation	Around 1,200 eggs a day, spent hens Sell compost from coops (mix of manure and wood shavings) in 50kg bags Starting garlic on a different farm	Vegetables Plans for cooperative activities in flowers, alien clearing and wood
Agroecological practices	SAOSO Organic Standards. PGS certified. Compost, pest and disease management.	SAOSO Organic Standards. PGS certified. Compost, green manure, low tillage, pest and disease management.	PGS certified. Organic principles for vegetables. Soil remediation. Wilderness conservation. Some synthetic chemicals on proteas (cost of alternatives a major issue) but efforts to reduce and switch to alternatives.	PGS certified. Outdoor pasture raised poultry (don't label as free range because a lot of what is labelled free range are barn hens), animal welfare, no vaccinations, deep pile composting in coops, high intensity rotational grazing with mobile coops and temporary electric fencing, solar panels for power, lime wash to kill parasites, intercropping garlic with green manure, drip irrigation	Organic principles. Produce own compost.
Employment	Retained all workers on acquiring farm. 12 full-time, permanent workforce, including owner-managers, 5-15 flower pickers depending on the season, 3-4 seasonal for figs, 5-10 seasonal during the few	5 permanent local SA workers living on farm, 1 casual worker, owner Occasional fynbos pickers on the farm	2 owners, 5 workers. Not enough labour. Occasional fynbos pickers on the farm	2 owners, 1 full time and 1 part time worker (husband and wife) living on farm	32 people working on agriculture, about 28 wood harvesters (alien clearing) out of about 134 cooperative members. Some paid stipends

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
	weeks of grape harvest. Extended pickers and alien plant harvesters are sourced through Zizemeleni Cooperative.				through CWP, others get profit sharing and food parcels from time to time.
On-farm production infrastructure	Vineyards, orchards, cold storage, buildings, irrigation. Plans for a cellar.	Buildings, cold room, irrigation, plentiful good supply of water under gravitation. No pumping needed.	Buildings, irrigation	Buildings, 2 fixed coops and 3 mobile coops, pumped water, orchard	Fencing, shade house, container for storage /office, disused reservoir nearby as potential water source
Logistics	Own transport locally and to Cape Town Occasional PGS shared transport to Cape Town Aggregators and agents for exports, couriers deliver. During peak season, daily delivery of vegetables and figs, otherwise on-farm storage for 2-3 days and then delivered	Own transport locally and to Cape Town Occasional PGS shared transport to Cape Town	Proteas couriered to Cape Town airport Veg - no cold chain, just harvest and deliver	On farm sorting, quality control, weighing, grading, packing by hand. Store on farm and distribute every 3-4 days. Own deliveries and shelf packing locally and Cape Town. Provide transport to Cape Town for other organic farmers when there is space.	Produce collected from farm for PGS box
Markets	Targeting organic premium markets. Good market response to wine. Local – PGS box, retailers, informal traders Cape Town – retailers, PGS box to Oranjezicht Market, Epping FPM Exports – wine, vegetables, figs, flowers	Western vegetables to retailers and restaurants local and Cape Town African vegetables – working with bakkie trader for local market Previously part of a box scheme but stopped due to delivery costs Hermanus weekly farmers' market is a major and profitable outlet Need to do bigger markets Garlic – national via supermarkets (prices significantly higher than export)	Proteas – export through agents Need another 3 ha of proteas for financial sustainability. Veg – health shop and farmers' market in Hermanus, surpluses to Cape Town organic shops and markets Some locally, Overberg PGS box but product consistency challenges. Veg production volumes still too low for profitability. Goats - need a herd of	Eggs – targeting premium markets, PGS branding. Retailers (independent organic shops, supermarkets), organic box schemes and restaurants 60% local, 40% Cape Town. Up to 5,000 eggs per trip to Cape Town. Demand currently higher than supply Spent hens to informal live market in Masakhane	PGS box, weekly Stanford market. Aim is to supply most of the PGS box from the cooperative. SAOSO to guide towards certified organic produce

	Farm 1	Farm 2	Farm 3	Farm 4	Farm 5
		Proteas more for aesthetics but do sell some in local markets	100 for goats' cheese production to be financially viable		
Other		Pest and disease management costs	Labour and time shortages, pest and disease management costs	Feed costs. Pasture to reduce.	Basic inputs from Dept of Agriculture then step back. Food 4 Thought admin, mentoring, making sure garden is functioning.

3.3 Biodiversity conservation and sustainable livelihoods on the Agulhas Plain

3.3.1 Background

The Agulhas Plain extends from Stanford to Bredasdorp and to the sea to the east and south, crossing the Overstrand and Cape Agulhas LMs. Within this area, the Nuwejaars Wetland is fed by four rivers with convergence at De Mond estuary. Land use includes wetlands, mixed agriculture and game farming, with the Agulhas National Park along the coast from Cape Agulhas to Pearly Beach [Ov07]. There are significant biosphere and biosphere conservation efforts by the state and private landowners.

The Agulhas Biodiversity Initiative (ABI)[18] was launched in 2003 as a voluntary association of landowners with government on landscape level biodiversity conservation. They started projects on sustainable harvesting, community-based tourism, private sector models for conservation and tourism, and communication and awareness raising. They entered into a multi-actor consortium, which WWF played a leading role in setting up [Ov07]. The main project was Cape Action for People and the Environment (CAPE) funded mainly by the Global Environmental Facility (GEF) with SANParks coordination via the Department of Environment and Tourism[19]. About 25 organisations were involved and the Initiative established lines of communication between diverse actors [Ov07]. On completion of the GEF funded project in 2010, SANParks ended their coordination role. Actors met to discuss the way forward and agreed to carry on the partnership, but orienting towards a more market-based approach. ABI adopted five thematic areas: renewable energy, green economy, environmental education, responsible tourism and integrated land use planning and management. The green economy is around natural resource use and services, fire, alien clearing, erosion control, and wetland restoration [Ov07].

The Flower Valley Conservation Trust (FVCT) [20] functioned as the ABI secretariat since 2010. FVCT was established in 1999, focusing on managing a conservancy on a farm near Gansbaai, but later with an extended mandate to work with ABI. It was established as a non-profit organisation (NPO) to promote conservation and sustainable harvesting of wild fynbos, in the context of the expansion of wine production into the area. Initial sponsorship came from Fauna and Flora International in the UK.

Within the broader initiative, landowners form their own voluntary groups and agreements on joint conservation of land. Examples are the 46,000 ha Nuwejaars Wetland Nature Reserve, which is an agreement between 25 landowners to remove land from agriculture, and shift to game farming and tourism as means to recoup income losses [Ov07]. Another initiative is the Walker Bay Fynbos Conservancy which was established in 1996 as a voluntary association of conservation-minded landowners. It includes the 480 ha Grootbos Farm which has a high-end ecotourism lodge on it as part of a green corridor incorporating Bhodi Khaya (high end nature retreat) and Platbos, a recognised forest in the area. The Grootbos Foundation was established in 2003 on the grounds of Grootbos Farm as a separate NPO from the commercial operations. The Foundation is funded partly by Grootbos and partly by outside donors and now has a team of 40 people. The Foundation started with conservation training through the Green Futures College on green economy. Twelve community members per year are selected, with a second year on indigenous horticulture training, all fully funded. The Foundation runs an indigenous nursery with some income going to the college. It does landscape research with a team including botanists, an entomologist, and a mammologist with a particular focus on Elim ferricrete fynbos. A protected area was registered with eight core landowners in 2021 connected to the wider Walker Bay Fynbos Protected Area Network. They have a long term plan for animal corridors [Ov11].

[18] https://agulhasbiodiversity.co.za/
[19] Now the Department of Forestry, Fisheries and the Environment (DFFE)
[20] https://www.flowervalley.co.za/

ABI is working on becoming a biosphere reserve registered with UNESCO, between the Kogelberg Biosphere Reserve to the west and the Gouritz Cluster Biosphere to the east. The biosphere concept incorporates a concentric core, transition and buffer zones, and wilderness areas. It is expensive but is also part of global networks, with global recognition and links to eco-tourism. A reserve could cover the whole Overberg, incorporating 1.2 million ha compared with ABI's current 250,000 ha. A large part of the Overberg is already converted land (no longer wilderness). The Biosphere Reserve would be developed with the involvement of Agri Western Cape and CA Western Cape [Ov07]. Another plan is to develop a carbon sequestration project together with the Gouritz Cluster Biosphere Reserve, combining CA, no till and biochar production, preventing carbon emissions and sequestration. The wetlands are experiencing carbon loss through drying out and peat loss. Another plan looks at crop to game farm conversion to restore cover [Ov07].

3.3.2 Livelihoods initiatives

In the past decade or so, there has been growing awareness of the need to find ways to link conservation efforts to issues of livelihoods and income generation for the majority of the population who are mostly excluded from conservation efforts.

> "One group that we somehow just don't have the energy and the effort to involve them are our local communities. We love speaking to each other as conservationists, we love coming up with ideas, but it's not us that needs to own that idea and implement it, it's the community, yet we exclude them from that thinking … I do think ABI is a very good opportunity, it offers a very unique platform, but we need to utilise it correctly and we need to make sure that the right people participate in that to make it really impactful" [Ov09]

"The low-hanging fruit is the alien clearing and the flowers. It's the easiest to get massive results". [Ov01]

3.3.2.1 Alien vegetation clearing

As indicated earlier, invasive alien plants constitute a clear threat to biodiversity in the Overberg.

> "A lot of the farms are lifestyle farms in the area, the guys are not farming them properly, they're not employing labour and then you have farms just not being managed and aliens going wild" [Ov01]

However, landowners are becoming more sensitive to the risk of invasive aliens. The Alien and Invasive Species Regulations of 2014 as promulgated under the National Environmental Management: Biodiversity Act 10 of 2004 mandates all property owners to manage listed invasive species on their properties (ODM, 2017:169). However, it is not only environmental legislation. Pressure from land redistribution to justify land use, too, "is stimulating some level of discomfort" [Ov09].

In 2011 ABI established a voluntary association for land management including alien clearing, and in 2013 they contracted with the Expanded Public Works Programme (EPWP) via the national Department of Forestry, Fisheries and Environment (DFFE) for alien clearing. Eighty percent of land on the Agulhas Plain is in private hands, and the DFFE was looking for co-funding from the private sector as conservation efforts are expensive. The EPWP consists of 3-yearly contracts of R4-6 million each, with supplementary philanthropic funds and landowner payments. Grootbos Foundation and others contribute funded training. The contracts are ongoing. They work with 100 farmers in 9 land use groups based on existing farmer- or ratepayers' associations. At the start, they employed 240 people in teams of 10, clearing around 10,000 ha. More recently this was reduced to 140 people clearing 6,000 ha because of budget cuts [Ov07].

> "The alien clearing programmes, the fire protection associations, they're just basically saying keep some environmental integrity and it will help you with insurance, help you against getting fined because of aliens on your land. That started to shift people's thinking and now they're going, I think probably what's pushing it a bit more now is the potential for carbon credits, eco services. I think the farmers are realising that these can be potential income streams." [Ov01]

> "We're always in the conversation of trying to show people that you don't have to farm land to make money from it or leave it alone for it to be properly conserved. There's a lot in between that you can do that protects the land but also generates income, and as much income as farming would." [Ov11]

During this time, ABI (via FVCT as managing entity) contracted and implemented alien clearing projects using their own staff. However, at the end of 2021 the FVCT's mandate was reduced to looking after their farm near Gansbaai, and to relinquish all other duties. Staff were retrenched and formed their own company to try to sustain the NRM activities. With ABI collaboration, they were successful in taking over the alien clearing contract that Flower Valley had with DFFE [Ov09]. The work will be outsourced to seven contractors with teams of ten to clear the land of aliens, and ideally stack and get that biomass ready for processing [Ov01].

> "ABI, that has been its intention now, is reshaping this alien clearing programme, trying to make it a lot more SMME [small, medium and micro enterprise] focused, look at developing farm contract teams made up of locals and offering them a decent return, not just a basic wage. Yes, there is subsidy from the government for the alien clearing, but above that subsidy, how do you make this into a liveable wage?" [Ov01]

The idea is to go beyond alien clearing in the field, to multiply contractor skills and develop SMMEs in the bioeconomy so they can offer a comprehensive land management package to landowners incorporating diverse elements such as trail maintenance, veld management, sustainable wood cutting, biofuel production, firefighting and managing fire breaks, sustainable sour fig and flower harvesting, follow up clearing and reseeding of natural fynbos, potentially planting orchards, control plans, and assessments of harvestable population stocks [Ov01, Ov07, Ov09, Ov11]. This needs a competent and well-coordinated group of SMMEs that can deliver impact and develop beyond merely getting contracts from government. The ideal is proactive and compliant institutions generating steady cash flow. They can then become contractors for farms, with ABI endorsement for teams that perform well [Ov01, Ov09].

The small business emerging from the contractors previously employed by ABI aims to position itself to provide support to a registered pool of SMMEs that provide these services, offer marketing support and securing business for the SMMEs, provide effective monitoring of programmes to inform strategies and plans, quality control, compliance, and training. They then can offer comprehensive and tailored NRM support to landowners for a fee. They will investigate opportunities with corporates and commercial farmers [Ov09].

Cooperatives are included amongst the SMMEs providing services, incorporating a number of potential downstream enterprise opportunities. For example cooperatives and teams could be involved in clearing but also processing of biomass into firewood, wood chips and compost, with local and export firewood sales. There is an idea for a packhouse for sustainably harvested alien trees with Forest Stewardship Council (FSC) certification for export of high profit wood. Green waste can be diverted from the municipal waste site for composting or chipping by SMMEs. The municipality could purchase compost for use in community garden programmes, thereby giving life to policies on preferential procurement from local SMMEs [Ov01]. There is potential demand for biomass for renewable energy through producing chips, pulverised dust and pellets. For example, the Overberg Agri lime works outside Bredasdorp and AB InBev malting facilities in Caledon are looking to shift to renewable energy [Ov07].

There has been a lot of organising and building of a model for contractors to have access to biomass and a site for processing. There is potential to look at carbon credits and other ecosystem services funds [Ov01]. Four of seven contractors are currently aligned with this vision. The aim is for 30 contractors through ABI with Zizemeleni as a community-based development cooperative to develop and house the contractors, provide resources, and build compliance. When the cooperatives and SMMES are registered and can go on their own, they can remain as associated partners but as their own entity [Ov01].

There are some differences of opinion regarding the financial viability of these activities. The move towards a carbon tax may result in a potential scramble for biomass later. However, at present, biomass is undervalued, and SMMEs are forced to bridge the gap themselves.

> "There's such a limited number of products that people want in terms of biomass. Anything that's financially viable should be considered for now. Maybe composting, maybe chipping, whatever. We're not in that position at all as a sector to be picky." [Ov09]

Contractors raise concerns about the feasibility of a model based on extraction from the field and processing of biomass. Although the physical conditions are more suitable to small operators, the cost of extracting and processing biomass raises questions about the model:

> "The nature of the logistics required to get biomass off the fynbos, out of the field is not a viable option for a highly technical, commercial outfit. It's not a plantation. It's highly dependent on physical labour to collect stuff and make it a viable option to then move to another location to add value. That currently plays in the role of small SMMEs ... If you justifiably calculate the labour intensity required to do that, it becomes not affordable for any commercial outfit to then buy the product … In this type of work it means that the collecting or gathering outfit is in some instances a separate unit, then you have your transport outfit … Each of them get their own prices, but there's only one gate price, and that needs to be cleverly understood … That's where the thing falls a bit flat. Because we get measured against charcoal or coal for that matter. Coal delivered to the gate is R1,000 per tonne. You're not going to get R1,000 per tonne for biomass ... It might be of a slightly lesser quality and you need more. All of those obstacles are the reality check that needs to be confronted. But yet, the environmental benefit is definitely greater than coal, so could that justify that the cost could then be slightly higher than coal?" [Ov09]

3.3.2.2 Wildflowers

Three main types of wildflowers are harvested in the area: Protea, Leucospermum and Greens. Plants are also cultivated, and Overberg produces 33% of cultivated 'wild' flowers in the Western Cape, with the majority in the Agulhas Plain. Cultivators plant on small to large farms. Although cultivated flowers are more highly valued, the distribution of value does not favour farmers, who get just 25-30% of the final retail price [Ov08]. Exporters dominate the industry, including Cape Mountain Flora (Stellenbosch), Fynbloem (Riviersonderend), and Bergflora (Cape Town) (ODM, 2017:86-87). Fynbloem[21], the only big exporter located in Overberg, is a family farm located in Riviersonderend, since the 1820s. They started their own cultivation of flowers in 1997. Currently they have 123 ha and 57 species under cultivation. Fynbloem Enterprises was established in 2007 and sources from within a 100 km radius. They have a GlobalGAP accredited packhouse. Bredaflor, Floraland and Honingklip Dry Flowers are registered producers of dried flowers in Overberg. There are also other smaller pack sheds in the area.

[21] https://fynbloem.com

An estimated 92% of flowers were exported in 2008. Packed flowers go to importing agents in the country of destination for on-sale to retailers, street markets, auctions etc. There are multiple domestic market channels including retailers, hotels, street vendors, nurseries etc (ODM, 2017:88). Packhouses and exporters have consolidated especially since Covid. Drivers include traceability and compliance demands by the market, and preference to work with a few bigger actors rather than multiple, dispersed small actors [Ov07].

As with alien clearing, wildflower harvesters are mostly labour-intensive and localised small enterprises, contracted in teams. Local pickers have operated in the area for generations, and have strong tacit knowledge about fynbos and harvesting, e.g. what to pick and when, which to dry etc. Contracted teams are highly competitive and don't share information about what they are picking or where. The result is a lack of a pickers' organisation and consequently they are price takers [Ov07]. Suppliers either harvest their own land or pay landowners for access. There is some informal (unregistered) harvesting.

Cape Nature licences suppliers and landowners. In 2003, FVCT was contracted by ABI and worked with Cape Nature and the flower industry to develop the Sustainable Harvesting Programme (SHP). An SHP Toolkit was produced, including a Code of Best Practice for Wild Harvesters, a Vulnerability Index to identify which species to pick, and the programme provided licencing support, field assessments and a survey of species populations, training, capacity building and research. However, "one of the key fundamental challenges was the implementation of those systems and tools within the industry and still making it an incentive for harvesters to comply with those practices. Also, a challenge was to create a market incentive for sustainably harvested product" [Ov09].

Suppliers transport flowers to the pack sheds for inspection, sorting and packing into fresh and dried bouquets. The packhouses exercise significant power in the local part of the supply chain. They manage harvesting teams and control the distribution of value between suppliers and buyers.

Different types of flowers have their own prices but these mainly are controlled by the packhouses. Pickers could get up to three times the value if the flowers were taken directly to the airport, but they need diversity and volumes. The price of natural fynbos has been pushed very low and the market has kept it there by increasing the price of planted fynbos and hybrid species. The introduction of cultivated hybrids with IP has marginalised wildflowers. Local packhouse prices for planted proteas are R25-R50 per head, but wild harvested natural species are getting 25c. The wildflower market has been functioning for four generations but is now commercialised and pushed away from natural species. The price paid to pickers hasn't gone up in 22 years but the price on the market has skyrocketed [Ov01].

> "There is such a high dependence on what the industry call filler species, which are your low-value species versus a focal flower, which is your high value. There's been a decline in focal flowers and the industry is basically just supplying fillers. Supplying a filler at 20c per stem for many years is not a viable thing … That type of pricing has got a real negative impact on sustainable harvesting. Because what happens now is harvesters are forced to harvest more volume to justify their business model. You push the industry in a way that it is forced to harvest unsustainably." [Ov09]

The packhouses use contract pickers to pick low value flowers and their own teams for higher value flowers, but all pickers are paid on a fixed rate. "The guys played this game and this is a game that needs to be culled. They mustn't do that thing. It must be a transparent price, this is what is the average of what's going on here … This is part of the fight that's slowly developing" [Ov01].

In this context efforts are being directed towards organising pickers to establish themselves as enterprises rather than just being contract workers for the packhouses, with efforts to open up new channels not so controlled by the packhouses. The longer term idea is to establish a cooperative packhouse owned by the pickers to compete with the private packhouses. There is an opportunity

especially for women in the Overberg area to get formalised into a flower cooperative, out of exploitative packhouses and to start their own group marketing flowers. This will need to be a step by step process: first reclaiming the land, the adaptation of the system, building collective community consensus, business plans and markets, and maintaining systems with good oversight [Ov01].

Farmer experiences with flower harvesting:

> [Farm 1]
> The previous owners leased the land under fynbos to a commercial packhouse which sent its own teams of pickers. Land for flower harvesting was leased for R25,000 a year but the value of the product was R380,000 even at poor packhouse prices, and up to R2 million for exports. After purchasing the farm, the new owners started working directly with the harvesting teams, who pick and get paid, and the farm then sells the product to packhouses. The teams are self-managed. They are testing out per stem rates and are working out the costs, but with an estimated 60-70% of income to the pickers, and the remainder to support the functioning of the cooperative.
>
> [Farm 2]
> Pickers often keep flowers in exchange for cleaning an area. There is annual outsourced picking on the fynbos area to licenced teams. The farm gets a share of profits.

For alien clearing, NRM and sustainable flower harvesting alike, there are wider concerns about market-based approaches to biodiversity conservation. To date, advocates have been unable to convince buyers (e.g. supermarkets) to pay a premium for sustainably sourced flowers that could be returned to sustain the programme to support training, monitoring, supervision etc. "This hasn't really translated into a lot of benefit to the harvesters themselves" [Ov07]. ABI have approached the Sustainability Initiative South Africa[22] to see if wildflowers could be integrated into their standards and monitoring processes rather than trying to set up a new system. This is an ongoing process [Ov07]. Traceability offers a potential for premium, with the idea of an area-wide logo covering a range of sustainably-sourced products [Ov07].

However, a neoliberal approach to biodiversity conservation means it is dependent on profitability in entrenched markets, small enterprises carry the financial risk with limited financial reward, and premium markets are considered to be the only route to profitable enterprise. Environmental concerns are the first to fall by the wayside when the economic pressure is on [Ov09]. The concept of social enterprise means not just maximising financial profit but also including other benefits [Ov07]. However, mainstream markets are not buying this. "People won't [change our current system] when it's a good thing to do, they'll do it because they benefit. What's in it for consumers?" [Ov07]

4. Existing public support and roles of local authorities

The Overstrand LM is engaged in supporting many activities related to the food economy which are part of the LED portfolio (Ov03). This includes support to community gardens (8 are monitored), some support to farms, SMMEs and cooperatives (pig farms, fish industry), management of informal trade, as well as the implementation of the CWP and EPWP programmes. Some of these activities are under the umbrella of or related to the Township and Rural Entrepreneurship Programme (TREP)[23] implemented by the Department of Small Business Development (DSBD), the Small Enterprise Development Agency (SEDA) and the Small Enterprise Finance Agency (SEFA).

However, like most municipalities, these activities are quite marginal with regard to the amplitude of local needs which are related to spatial planning and a massive pressure for housing development.

[22] https://siza.co.za/
[23] http://www.dsbd.gov.za/programme/township-and-rural-entrepreneurship-programme

According to the LED department, the municipality is under pressure of criminal networks which have been developing over the last years and are disturbing informal activities, particularly informal trade (see also Box 1).

Among these activities, two initiatives/programs have a specific interest with regard to supporting or opportunities to contribute to sustainable development: the MAGIC initiative and the public employment programmes.

4.1 Municipal Applied and Green Initiatives and Concepts (MAGIC)

Municipal Applied and Green Initiatives and Concepts (MAGIC) is an initiative on inclusive economic transformation by activists at the start of democracy in South Africa. Various activities were initiated from 1994, and in 2011-12 a methodological approach was consolidated as a model for civil society working with the Department of Cooperative Governance and Traditional Affairs (COGTA) for multi-actor sustainable development activities at municipal level. A key aspect of the process is the consolidation of a secondary cooperative on sustainable development in each municipality that incorporates all primary cooperatives across a number of economic sectors. This cooperative then becomes the interface between civil society organisations and the municipality. Together they form a transparent and accountable special purpose vehicle for integration into Local Economic Development (LED) and IDP planning processes, including preferential public procurement (Figure 2).

The model led to practical activities with LED offices in a number of municipalities in Gauteng and Western Cape (MAGIC 2018). The initiative had some success in the machinery sector with the National Tooling Initiative Programme[24], working with the Department of Trade, Industry and Competition to revitalise South Africa's toolmaking industry through building skills and expertise amongst black-owned and -managed SMMEs, with effective public-private governance structures. The objective is to expand this example to other sectors. Agroecology is one of eight development sectors the initiative is working on.

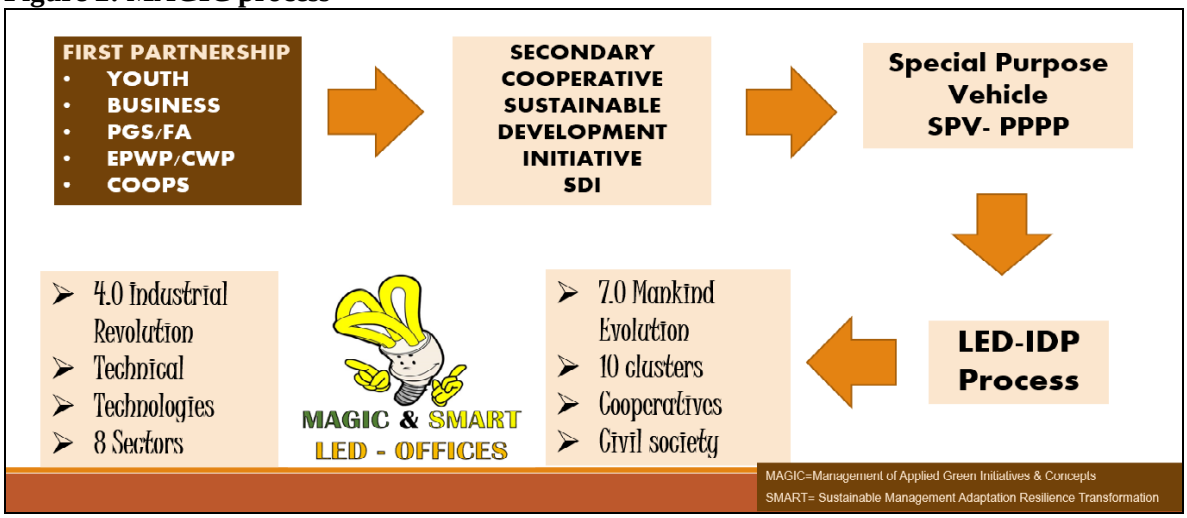
MAGIC has provided a framework for local civil society efforts at systematic engagement with the Overstrand LM, linking biodiversity conservation, agricultural production, social redress and transformation, livelihoods and food relief. The first step is to create a link with the municipal LED office, with the manager/director as the main port of call to understand the vision. Municipal LED units are the only constitutionally mandated departments that can promote LED and draw funds from outside the municipality. Other departments do have allocations but the LED office has wider potential to bring projects into the IDP, Municipal Infrastructure Grant (MIG) investment, provincial and national budgets. There have been attempts across the Western Cape to engage with LED managers to show the method in the manufacturing sector and how this can be converted to agriculture and NRM in municipalities [Ov01].

In Stanford, a multi-pronged approach is currently being followed, with the aim of integrating the elements:

- Ward committee and LED, and integrating Community Works Programme (CWP), EPWP and other sources of subsidy
- Cooperative development, with Zizemeleni earmarked as a potential overall secondary cooperative to coordinate primary cooperatives for food gardens, alien clearing, flower harvesting etc.
- Extend PGS as a standard and protocol for use in other sectors beyond agriculture

[24] http://www.nims-skills-sa.org/web/index.cfm

Figure 2: MAGIC process



Source: Brett Sander presentation to webinar, 13 April 2021

Local and district municipal plans encompass eco-tourism, agri-tourism, SMME and informal sector development including food retail, preferential public procurement for smallholders and local enterprises, and emerging farmer support including provision of land and inputs for home food gardens. The short term economic recovery strategy aims to improve and expand public employment programmes (OLM, 2021:237-9). There are links to provincial programmes such as the 'Nourish to Flourish' programme in connection with the Western Cape Economic Development Partnership[25]. The provincial Department of Agriculture also has programmes in the area but these currently are not coordinated with the municipality.

Initiatives described above such as food gardens, sustainable alien clearing and processing of biomass, and sustainable flower harvesting are well-aligned with government policy and programme priorities. There are opportunities not only to support the development of local black-owned and -managed SMMEs, but also for the municipality to reduce costs by procuring inputs (e.g. compost) from these SMMEs for use in input supply programmes, or reducing costs of municipal waste management through channelling green waste to cooperative value-adding ventures.

There are 26 NGOs in Overstrand, with 70% working on agriculture. These are organising at municipal level. NGOs meet monthly with the CWP to plan project management at the sites.

The ward committee is a site for intervention. The committee consists of area-based reps and community-based organisation and NGO based reps. Members are selected through community elections. The majority of the current Stanford ward committee supports the broader approach, and there is some alignment with other ward committees in Hermanus, Zwelihle and Gansbaai. The approach "is about raising priorities on the IDP. That's what it comes down to, is how many hands can raise to push a certain agenda up the IDP … It's one revision per year and five-year cycles, so you must make sure that you're in for your revisions" [Ov01].

> "You've got five years and then they [elected representatives] are all gone, then you have to start all over again. That's the problem really with municipalities. If you don't work with the officials, stuff's ephemeral really, it just dissipates once they're voted out or they move … If you're relying on the councillors, what the officials like is if the councillors back them, obviously, because then there's going to be budget." [Ov07]

[25] https://wcedp.co.za/

Initial joint activities between civil society and the municipality have started. Local youth were recruited to conduct farmer and household surveys in towns in the district using an online data collection app. The surveys collected baseline data on education, support to early childhood development, training for school goers and after school programmes, income, drugs, access to services, food etc. This was aligned with the LM through a national programme to set up youth councils. Youth selected representatives who were sent to the LM to represent their town, to listen in to the ward and council meetings, to disseminate information, identify opportunities, understand what assets are available, and where to pull resources from. Projects can then be placed in the IDP and can be taken to government to subsidise the provincial budget [Ov01].

These processes tie into the larger MAGIC narrative of green circular economies to support decent food and lives. The next part is capacity building and training for youth. The long term view is to use PGS farms and ideally state land with training programmes on that land and centres of excellence for learning, work experience, and to start on a small scale on municipal land. Then project management needs to be developed, looking at individual projects and bringing them together under secondary cooperatives, with one secondary cooperative per LM which is the Sustainable Development Initiative that then talks to municipalities. Current laws and policies allow for good collaboration between secondary cooperatives and the municipality whether for housing, tendering or procurement. There is a lot of policy to give leverage to secondary cooperatives [Ov01].

The Zizemeleni Cooperative is conceived as potentially playing the role of secondary cooperative, and as an integration point for various initiatives and activities including food production, alien vegetation clearing, sustainable flower harvesting, land reform, public employment and LED programmes. The groups in Stanford have been building the platform using the CWP, EPWP and ward committee meetings to start building consciousness amongst contractors on where the end goal is. A “big win” was securing a lease on state land for community use for the food garden [Ov01].

> “The ideal situation for us is that we feel that you should have one community-based co-operative per town. You can have different sectors: agriculture, housing, waste, energy, whatever it may be. Your community members that are unemployed or underemployed are members of that co-operative and depending on what contracts or work come through that co-operative, are able to offer their services, whether it be a tender, an opportunity, the market that we can direct through that community co-operative” [Ov01]

Regarding extension of PGS beyond agriculture, PGS is seen as a standard and a protocol. The aim is to use the PGS model as part of building wider processes. It is best practice and an ideal protocol for farming at low cost for people on the ground. This could be replicated in any sector whether for building, waste management etc, with municipal endorsement as a way of working. This could then take hold and become part of local governance tools. Thus PGS need not only be in agriculture. The SAOSO standard and templates could extend to manufacturing with protocols to use for machines, and the same for any sector [Ov01].

4.2 Public employment programmes

The CWP and EPWP public employment programmes provide a critical material base to build the activities defined above. The programmes include wage subsidies/stipends and skills training. Zizemeleni food garden incorporates CWP stipends for some members (with efforts to also get others onto the programme). EPWP, along with the Working for Fire and Working for Water (WfW) programmes, subsidises teams for alien vegetation clearing.

The CWP pays a stipend to some participants to work at the Zizemeleni garden for 8 days a month. It is only for the unemployed and those earning less than R3,500/month. Participants go to the LED Unit or municipal councillor to register and only need to register once. After the 8 days are up, the workers can continue at the garden if they choose, and the cooperative pays from its own income for extra days based on monitored days of work [Ov14]. The garden has a Memorandum of Understanding

with the municipality on CWP and selected their own manager. The farm manager at the garden (who is also a cooperative member) provides supervision and coordination, with timesheets for actual time worked. Timesheets are separate from the CWP and cover all workers.

Not all workers are beneficiaries of the CWP. Other cooperative members receive occasional profit sharing and food parcels. Income arrives irregularly and although this can be up to R25,000 or more, it is shared proportionally, based on recorded work. This doesn't generate a significant share per member. This arrangement has created some divisions and tensions within the cooperative, as some workers are being paid regularly through the CWP and others are not [Ov01, Ov14].

The CWP programme is not well-managed at municipal level and has a number of design flaws that open the space for corruption. "Government management of their public employment programmes is the cause of a lot of community tensions. EPWP, CWP, all of it. Even when you have good host organisations" [Ov01]. There were historical problems with the way the programme ran, with alleged corruption inside government at supervisory level across numerous sites (participants getting paid but not working) but implementing partners had no authority to stop it. There are allegations of coordination of these corrupt practices at the CWP office in the municipality. This has been brought to the attention of relevant officials but they are slow to move. Civil society organisations did manage to change the previous local implementing agent which was perceived to have allowed these practices. A key problem is that the municipality selects beneficiaries rather than allowing the projects where those people will work to make selections [Ov01]. The more recent Presidential Social Employment Fund (SEF) is structured to give more authority to local implementing partners on disciplinary procedures and governance and to remove the implementing agent 'middleman'. Efforts are being made to use the SEF to develop the activities initiated under CWP.

> "The LED manager or chair is one of the hardest jobs at the LM because of their ability to shape contracts and to ensure local procurement and to set requirements for tender, a lot of that activity is close to that manager. I have seen them become transactional advisers to friendly private contractors. We are trying to break private 'tenderpreneur' relationships and make those nuances transparent to the community and show that through the policies we can stop this. Good managers get excited by the vision and can stop dodgy tenders. But where officials are accustomed to get a backhand, it becomes harder." [Ov01]

The EPWP is linked to the WfW and LandCare environmental programmes and, as indicated, is being used to subsidise alien vegetation clearing in the Overberg. It seems to have better management and supervision within government than the CWP [Ov03]. However, funding primarily goes to operational costs, with an inadequate fee for proper management on the ground. Government resources are unpredictable. You can seek support there but the budgets may decrease or be cancelled. There is need to hedge through diversification of funding [Ov09]. The programme is administratively onerous with unreliable payment, and pays below minimum wage. "A lot of people work for EPWP because there's nothing else" [Ov07]. The original idea of WfW and EPWP was to build a basis for people to enter into the economy without need for a subsidy but there is no effective market for the services being offered even though they have use value [Ov07].

> "[There are] ongoing changes in terms of administrative procedures within the Working for Water programme. It just seems never ending. You need to keep up with all these administrative demands while your budgets are very, very slim. It really takes up a lot of time and eventually a lot of cost, which distracts you from the actual output, which is clearing invasive aliens." [Ov09]

This may improve with recent shifts to service provider contracts, with a straightforward payment for work completed rather than implementing agents as an extension of government, and therefore the need to comply with all government internal financial procedures.

> "Working for Water or the 'working for' programmes are quite specific in terms of clearing methods that they are willing to pay for. In the past, for example, we were allowed to clear brush, stack them and for some enterprises to come and extract the wood … The department has over the recent years moved away from that strategy … Our person day cost is quite restricted and it only allows us to physically cut down trees and let them lay in the field. There's no extraction of biomass whatsoever. All the biomass remains behind in the field … It will increase the risk of fire. But according to government's view, if any enterprise is interested in the product, then that cost is for them to try and extract the product or gather the wood or whatever they want to do is then a separate cost … Government doesn't see itself fulfilling that role. As I said, their mandate is becoming more and more specific. Cutting down trees, saving water, saving biodiversity, that's it. Any secondary industry that could develop out of that must consider their logistics and also the cost to acquire the biomass for extraction." [Ov09]

> "The biggest thing, not only just the biodiversity, but the real development and empowering of SMMEs is going completely in the negative direction. We pursue this with a vigour of compliance. You are a new contractor, unemployed, but unemployed means something. You've got basically zero or limited buffer financially, very little, but you need to come in meeting compliances that *skrik vir niks* [are afraid of nothing]. You must have a vehicle that's peak condition, you must have people that have got fully dressed with very nice PPE [personal protective equipment], and you must have all the health and safety compliances from day one. Then government gives you contracts. Those contracts may come once or twice in a financial year. The size of those contracts are R20 000 for ten, 11 days' worth of work. You need to be in the field every day. You need to go out and find money to be in the field. So, you go to a loan shark or wherever, get your money, and then run your operations on basically a high interest loan … Then you need to wait and pray that government pays you quickly because your interest runs, your people want to get paid and you need to get the work done in the time allowed of the contract … It's people that are really at the bottom of the entrepreneurial skill in terms of their performances, quality controls, etc., but the expectations are here. You're set up for failure … We're not making the biodiversity inroads that we want, we're misperforming on our social impacts completely." [Ov09]

The CWP and EPWP may be good ways to subsidise the labour component of transition activities. But activism is needed because in most LMs these programmes are completely captured and resources are wasted. People are just picking up paper, there is lack of management. Strong NGOs in the LM must make noise at the council and ensure participants are put towards community-based and community benefiting projects. They can be key to kickstarting garden and alien clearing programmes. From that a "free" resource is created because the labour component is paid by the state, and you are left with bundles that can be processed. Then the question is where to process and speaking to the LED manager or people at infrastructure to allocate sites [Ov01].

> "Public employment programmes are key. But policies are even more key. Looking at COGTA procurement policies and localisation, local service providers should be used for municipal contracts but also local cooperatives should be putting forward tenders for local work. If they are there, a minimum of 70% of any contract should be awarded to those cooperatives. That type of legislation and policy is written in but is not actioned on the ground because people are not aware or cooperatives are seen as destined to fail so they are never used or actioned … There is no better showcase of sound environmental and social governance principles than in the cooperatives. If the product is endorsed by the local municipality, with good governance and transparency, other donors would be able to sit in that collective. This becomes a sustainable development initiative in the LM, with local service providers, NGOs providing support and local SMMEs and cooperatives operate." [Ov01]

5. Main lessons and way forward

Respondent suggestions for use of the research:

> "At the end of your thing there must be as much advice on how you see what you've discovered or recommend being implemented" [Ov07]

> "Not just think about it and discuss it, but put into practice things that we can test and really see, how do we stimulate economies that can deliver a service where biodiversity wins and our communities financially gain?" [Ov09]

> "Maybe we need a work session where we put it out there on our website and on our social media and we say we're having a dedicated meeting around how we move the food system from being X to Y. What are the phases? I can mention a lot of people who'd come to that. There are lots of people in this area who have come here because they like that idea, but often don't know how to go about it" [Ov07]

5.1 The Rûens

Winter grains and livestock in the Rûens is corporate dominated, with concentration of ownership and resources and high barriers to entry into commercial production, driven by soil degradation, herbicide resistance and input costs. Different processes are at play. There is high adoption of CA and moves towards greater environmental sustainability in commercial agriculture, but limited change in mindset and within relatively unchanged corporate-industrial value chains. The awareness of sustainability issues is facilitated by the convergence between new sustainable agricultural practices and the possibility of cost reduction (or changes in costs) in a very competitive context. The adoption of CA goes with the development of outsourcing of activities by farmers to specialized contractors, motivated by economies of scale (notably equipment), which increases the industrialisation of agriculture.

On the other hand, there is thinking going into integration with biodiversity conservation and NRM. This is in early stages but could mark a shift from productivism to multifunctionality. Challenges of conversion include the high cost of CA inputs including mechanisation, lack of diverse and appropriate seed cultivars, weed control and the need to move away from herbicides, and balancing environmental and economic sustainability.

The practices underpinning CA are compatible with agroecology as defined by the HLPE and FAO, although in isolation they remain fairly limited in terms of agroecological transitions. They touch on a number of the 13 HLPE principles of agroecology including recycling, input reduction, soil health, biodiversity and synergy. But, following Gliessman (2016), they remain incrementalist activities operating mainly at farm level (input use efficiency and substitution of inputs and practices) but without social or system-wide transitions (including farm labour conditions, redistribution of resources, redress and social justice, deconcentration, or wider food system transitions). "It's really soil conservation, it's not conservation in the green way, but at least it's soil conservation" [Ov07].

Local embeddedness of grain and livestock systems is weak, with production and processing but then export out of area, with processed products imported back into the area for consumption. There is a disconnection between local grain and livestock producers and consumers except for some narrow channels (local millers, brewers, oil processors, and abattoirs) which are limited both by effective local consumer demand and by entrenched structuring of the industry (e.g. large silo complexes, processing facilities located nearer urban centres nationally, centralised manufacturing and distribution systems etc).

CA is an example of "pragmatic adaptation", where problems in the prevailing socio-technical regime inform the guiding principles creating a niche (where alternatives are developed), and some practices

developed in the niche are sufficiently flexible to be incorporated into the regime. Such practices reinforce the prevailing regime by assisting with its adaptive capacity (Ingram, 2015:64; Smith, 2007; Geels and Schot, 2007). As such it is adaptive rather than transformative. Nevertheless, the significance of CA lies in the fact that it is a sustainability move being made in large-scale commercial agriculture which has by far the largest ecological impact in the agricultural sector and occupies by far the largest land area. As such it can be considered one, albeit partial, process directing South African agriculture towards greater ecological, if not social, sustainability.

5.2 Stanford

The research highlights a relatively limited and unbalanced economy around Stanford, with structurally high unemployment and persistent high levels of poverty. The area has a strong economic dependency on Hermanus and relies heavily on external sources for food supply. Land access for settlement is a key issue and apartheid spatial relations remain intact. Natural resources are a key asset in the area, currently being used economically mainly for high end agro-tourism and eco-tourism. This is unbalanced and serves to entrench inequality and access to the formal economy for marginalised communities and groups. Invasive alien species, wildfires and water quality are key environmental issues.

In horticulture, there is an expansion of organic farming in Overstrand although it still constitutes a small part of the overall food economy. There is significant integration of wine farming, organic production, biodiversity conservation and NRM, and agro-tourism and eco-tourism. Organic producers still rely primarily on premium domestic and export markets. There are diverse local market channels but with a limited base for premium markets. This necessitates identification of niches not reliant on premiums for profitability (e.g. African speciality vegetable market, domestic niches such as garlic).

There is significant adoption of HLPE agroecological principles on individual organic farms. PGS and biodiversity conservation initiatives raise the sights beyond individual farms to the wider food system and landscape levels with potential for transformative activity. However, this is still in early stages.

Biodiversity conservation and NRM constitutes a significant land use in the area. It is mainly voluntary and driven by private landowners. There are efforts to link to livelihood opportunities to bring disadvantaged and marginalised constituencies into the bioeconomy, in particular through alien vegetation clearing and flower harvesting. However, this is premised on the adoption of a neoliberal model of market-based conservation, requiring a profitable business model for ecosystem services in the face of lack of sustained and widespread consumer interest in paying a premium for these services. In this model, small enterprises carry the risk of failure and are essentially left to fend for themselves in markets that still require a lot of work to develop. Biodiversity conservation and NRM are not directly related to the food system but are potential avenues for income generation (and hence improved food security) and, in line with Wezel et al. (2016), are key elements in the establishment of wider agroecological territories.

Stanford has a strong civil society presence and there are efforts to connect systematically with local authorities around embedding processes in LED and IDP planning and implementation. This includes strategic use of ward committees to advance transformative agendas, as well as use of public employment programmes to subsidise activities at least in the early stages. The latter face challenges with corruption and accountability, onerous systems for SMMEs, and limited resource allocations including for effective supervision and management. Nevertheless, they potentially offer key financial support (albeit limited to wage subsidies and training) for transition activities.

There is a key role for cooperatives, with the objective of developing primary cooperatives for individual enterprises, and a secondary cooperative to coordinate primary cooperatives within a municipal area. It is still early days in establishing the system, with very slow movement from local government and uneven buy-in. PGS offers a potential model for quality assurance and multi-actor

supply chain organisation for extension to other economic sectors beyond agriculture. Overall, civil society is utilising multiple entry points and interfaces for public sector engagement, including the ward committees and IDPs, CWP and EPWP, ABI livelihood initiatives, food relief, and farmer support.

5.3 Key areas for consideration

- Demand is outstripping supply in agroecological, organic and CA input production and supply systems. The cost of inputs for these systems remains prohibitive for conversion. Funding is required for public sector research and development (R&D) into CA and agroecological / organic production, for public sector crop breeding programmes for climate adaptation, bulk production of biofertiliser, and for effective organic pest and disease management goods and services.
- There are long conversion times from conventional to ecological production systems, with estimates of 5-9 years depending on the state of resources and types of production. Conversion subsidies for defined activities should be considered. However these should be conditional on explicit extension of activities to social justice and redress, such as redistribution of land and other resources, and multi-year financing and support to enable SMMEs and cooperatives to establish, test and adapt business models for sustainability in food production, biodiversity conservation, land management, alien vegetation clearing, wildflower harvesting, and biomass and wildflower processing and sales.
- Facilitate dialogue and integration between CA/regenerative agriculture trials and practices and biodiversity conservation and NRM via the ABI and ORCT, including around the idea of establishing an Overberg biosphere reserve. Biodiversity conservation and NRM may be a point of inter-sector integration (grain/livestock and horticulture).
- Crowd in resources to support systematic piloting of the MAGIC process incorporating *inter alia* cooperative development, material and immaterial support for establishment and operationalisation, multi-actor governance arrangements, monitoring results, sharing lessons and scaling out good practices.
- Municipalities are overwhelmed by their existing mandates in a context of limited human and financial resources. There is a challenge to assist local governments and particularly to highlight the opportunity of supporting more sustainable food systems because they can contribute to local economic development and have a positive impact on employment. This calls for including food systems and their sustainability in the drafting and revision of the local development strategy which is reflected in the IDPs.
- The transition to more sustainable systems and to agro-ecological practices cannot rely on market forces only. Even if new practices could be certified and rewarded with premiums, local markets are generally “not ready” and the existing experiences reported in this case study highlight the importance of costs related to transitioning to new systems. It is important to keep in mind that past transitions have always been supported and that governments will need to provide specific incentives which require ad hoc sources of funding.

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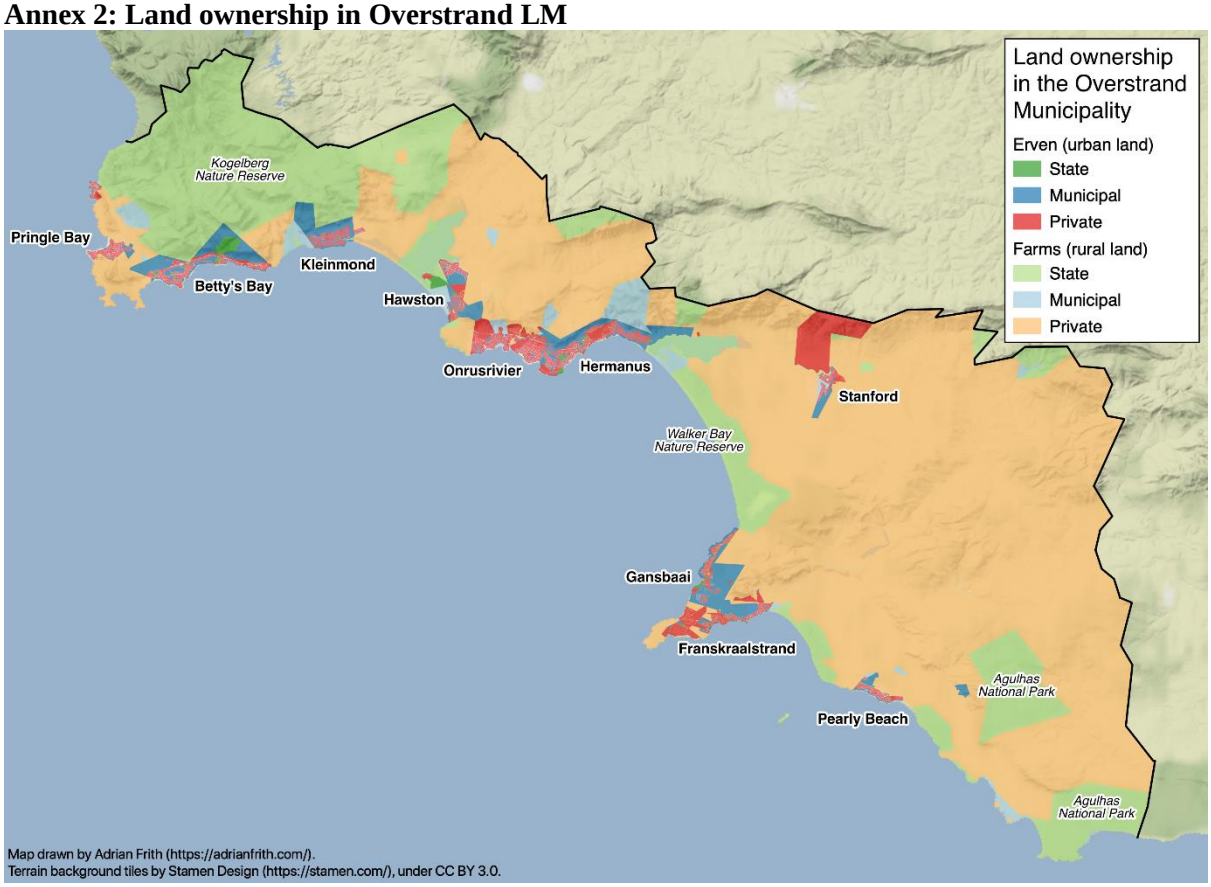
Annex 1: List of interviews cited

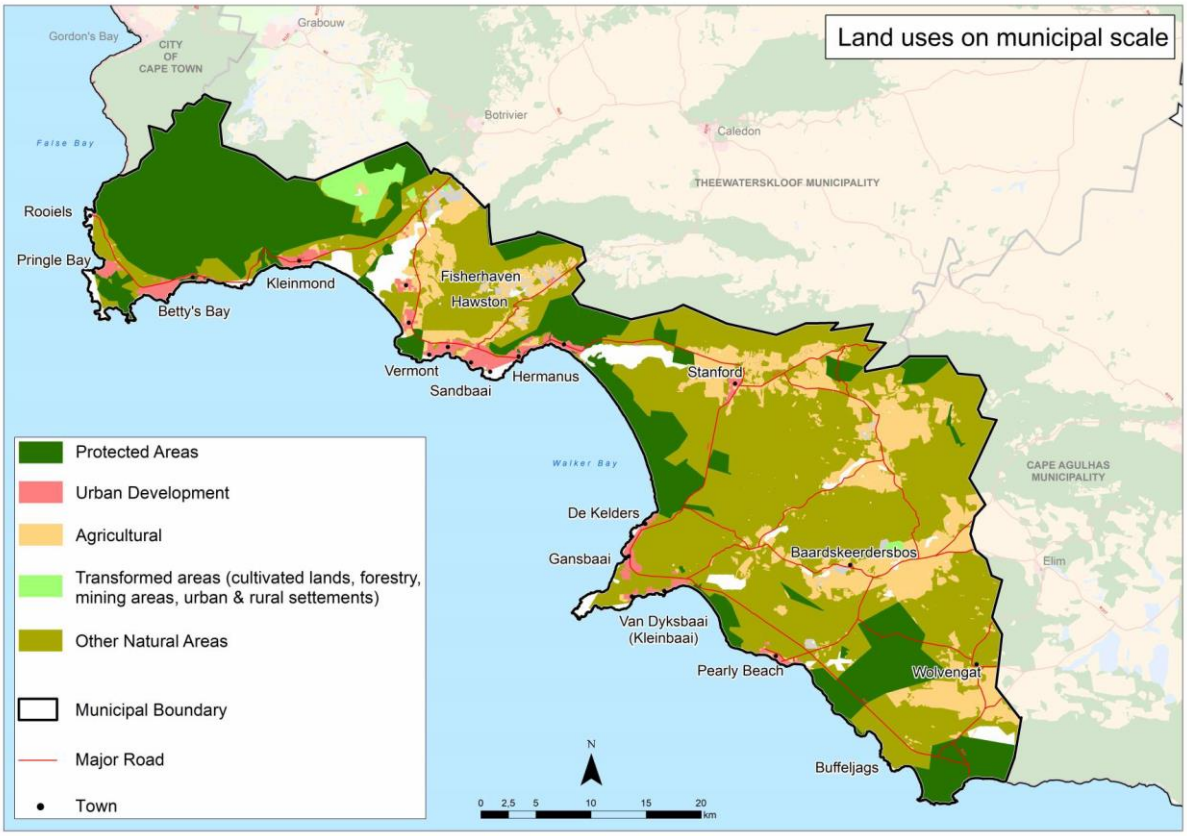
Interview #	Description of interviewee	Location	Date
Ov01	Organic farmer	Stanford farms	8/2/22
Ov02	Organic farmer	Stanford farms	7/2/22
Ov03	Government officials, Overstrand LM LED Unit	Hermanus	10/2/22
Ov04	Academic/food systems consultant	Hermanus	10/2/22
Ov05	Researchers, Elsenberg Tygerhoek Research Farm	Riviersonderend	9/2/22
Ov06	Managers, OverbergAgri	Caledon	9/2/22
Ov07	Agulhas Biodiversity Initiative	Napier	10/2/22
Ov08	Organic farmer	Stanford farms	11/2/22
Ov09	Alien clearing contractor	Bredasdorp	11/2/22
Ov10	Organic farmer	Pearly Beach	9/2/22
Ov11	Grootbos Foundation	Grootbos Farm	11/2/22
Ov12	Supermarket manager	Stanford	8/2/22
Ov13	NGO	Stanford	7/2/22
Ov14	NGO and cooperative	Stanford	7/2/22
Ov15	NGO	Stanford	11/2/22

Annex 2: Land ownership in Overstrand LM



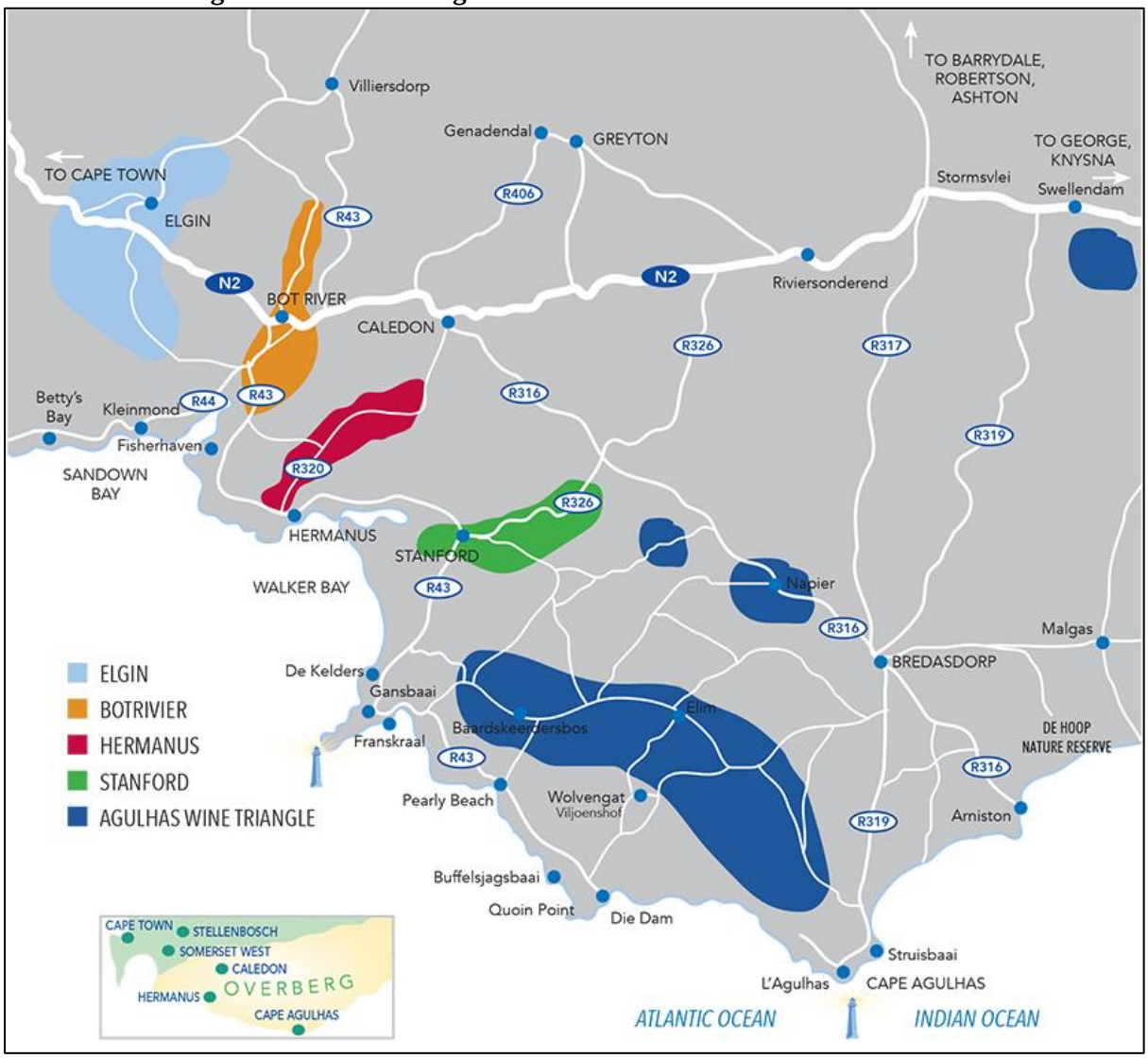
Source: https://i.redd.it/jwdrlj9dg8c31.png

Annex 3: Overstrand land use map



Source: OLM, 2020:57

Annex 4: Wine regions of the Overberg



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