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# From Local Initiatives to Coalitions for an Effective Agroecology Strategy: Lessons from South Africa

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**Abstract:** Agroecological food system transformation remains marginal in South Africa despite numerous policies, plans and programmes favouring sustainable agriculture. Problems of weak budgets, fragmented interventions and lack of coordination reflect the power dynamics in the prevailing food system, dominated by large-scale conventional agriculture and agribusiness. The paper provides an in-depth case study of the importance of promoting agroecological transitions. Following a qualitative research methodology based on a literature review for context, preparatory discussions with local contact points, and semi-structured interviews and focus group discussions with local actors in the field, the paper describes, analyses and characterises the agroecological transitions in the Overberg District in the Western Cape. It considers the broader policy, discursive and organisational landscape of agroecology followed by an in-depth analysis of the site drawing on key informant interviews and focus group discussions. The results demonstrate that local stakeholders are positioned to better connect food and nutrition issues with human health, biodiversity, climate change, natural resource management, and local development. As a result, transformative dynamics could emerge from local projects and programmes. Several lessons and recommendations are drawn to contribute to the policy debate. These highlight the potential of multi-actor coalitions which can develop from specific agroecological initiatives and activate positive dynamics, bringing in multiple interventions of municipalities.

**Keywords:** food systems; transformation; transitions; place-based



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## 1. Introduction

### *1.1. Introduction*

This paper emerges from a study conducted under the auspices of the Transitions to Agroecological Food Systems (TAFS) project, a multi-country research project launched in 2020 [1,2]. The main objective of the overall project was to provide policy makers and stakeholders with convincing arguments about the importance and adapted ways of promoting agroecological transitions in order to address current and coming sustainability challenges. The research question guiding the work was "What are the essential characteristics of the territorial food systems and sub-systems in the Overberg District Municipality in the Western Cape province, taking into consideration actors and practices, sub-system products and food flows, and the inter-relationship between actors/practices within and between sub-systems?". This was in order to put into perspective the evolution of these systems with their institutional and political environment. Our hypothesis was that there are local agroecological levers which can be consolidated to facilitate the development and progressive transition to agroecological practices and the evolution of the local food systems.

Agroecological food system transformation remains marginal in South Africa. Despite numerous policies, plans and programmes favouring sustainable agriculture, the limited

changes highlight weak budgets, fragmented interventions and lack of coordination. These problems reflect the power dynamics in the prevailing food system, which is dominated by large-scale conventional agriculture and agribusiness.

Nationally, several civil society networks promote agroecology, organic production and food sovereignty. These, however, lack the wider connections with consumers and other food system actors needed to establish a coalition for change that could have effective political and policy impact. Government support is strongly shaped by large-scale commercial agriculture as the normative model, and farmer support is geared almost entirely towards conventional production.

There are, however, numerous place-based projects based on agroecological principles and practices. Despite the dispersed nature of these initiatives, much can be gained from these diverse experiences. In these places, local stakeholders are positioned to better connect food and nutrition issues with human health, biodiversity, climate change, natural resource management, and local development. As a result, transformative dynamics could emerge from local projects and programmes. These dynamics refer to opening up processes that can enable a shift from conventional agricultural practices towards agroecological transformations and building local agency in food systems. Figure A1 [3] indicates one model of how niche initiatives can lead to changes in the dominant socio-technical regime. By connecting local initiatives, the possibility exists of building coalitions from the bottom up, at the level of municipalities.

This paper focuses on one such initiative, in the Overberg District Municipality in the Western Cape province. From observation and engagement with local stakeholders in Overberg during early 2022, several lessons and recommendations can be drawn to contribute to the policy debate. These highlight the potential of multi-actor coalitions which can develop from specific agroecological initiatives and activate positive dynamics, bringing in multiple interventions of municipalities.

### *1.2. Overview of Overberg District Municipality and Overstrand Local Municipality*

Overberg District Municipality (DM) has a diversity of natural habitats, incorporating a coastal belt, a narrow coastal plain, mountains and valleys, and—about 15 to 20 km inland—a winter grain belt known as the Rûens (hillocks) across Theewaterskloof, Cape Agulhas and Swellendam LMs (Figure 1). The district has a Mediterranean climate, characterised by cold, wet winters and warm, drier summers.


**Figure 1.** Map of Overberg District Municipality with local municipalities [4].

The natural environment is the region's largest asset, and NRM is considered highly critical for sustainability [5] (p. 37). The Overberg is part of the fynbos biome of the Cape Floristic Region, a global centre of terrestrial biodiversity. It includes national parks, nature reserves, wilderness areas, state forests and mountain catchment areas, with 13 protected area clusters covering over one million hectares [6]. The Agulhas Plain crosses the Over-

strand and Cape Agulhas LMs. Land use on the plain includes wetlands, conservancies, mixed agriculture and game farming.

Wildfires, encroachment of invasive alien plants (IAPs) and inadequate governance systems threaten biodiversity if not timeously managed [6]. 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 Water Management Area (WMA)—in which the plain falls—being the most invaded area in the Western Cape [7] (p. 7). Climate change is anticipated to result in more intense and frequent storms, rising sea levels, increased flooding and wind speeds, and longer drought periods in the area.

Half the population in the Overstrand LM lives below the upper poverty line (monthly income of R1 183 or less (USD 62 at the time of writing)) [8] (pp. 57–58). Unemployment (based on the official definition) stood at 21% in 2019 (prior to the COVID-19 pandemic) [9]. The pandemic, and responses to it, led to sharply increased unemployment and food insecurity across the country [10]. Overstrand LM has a predominantly service economy, accounting for 44% of gross domestic product (GDP) and employment, followed by manufacturing (15% GDP, 9% employment). Eco-tourism and agro-tourism are a significant part of the services economy [6]. Almost 80% of formal jobs in Overstrand, including in agriculture, are semi- or low-skilled [11] (p. 81).

Agriculture, forestry and fishing contributed 7% to GDP and 12% to employment in Overstrand in 2017. As the second-smallest sector in the local economy, some consider that agriculture does not have strong growth potential [8] (pp. 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 upstream and downstream economic linkages should also be considered.

Two initiatives were identified as examples of incipient agroecological transitions in the Overberg district. The first is Conservation Agriculture (CA) amongst large-scale commercial winter grain farmers in the Rûens. The second is a group of interlinked activities centred on the Overberg Participatory Guarantee System (PGS) in the Overstrand LM.

## 2. Materials and Methods

The first phase of the research considered the broader policy, discursive and organisational landscape of agroecology in South Africa. The second phase involved in-depth case studies to describe, analyse and characterise food systems engaged in agroecological transitions in three selected sites. The three case studies were Matatiele Local Municipality in the Eastern Cape, Inchanga in the eThekwini Metropolitan Municipality in KwaZulu-Natal and the Overberg District Municipality in the Western Cape. The overall research is primarily qualitative, given the lack of local food systems data.

The 13 agroecology principles of the High Level Panel of Experts on Food Security and Nutrition (HLPE) of the Committee on World Food Security [12,13] (Appendix A) provide the defining framing for agroecology. In this article, these are related to the five levels of food system change proposed by Gliessman [14]. Methodological issues about the limitations of attempting to align the HLPE principles (or the FAO's 10 elements of agroecology) to Gliessman's levels need not detain us too much here, as we are using the framing primarily for descriptive purposes. However, we note that efforts at such alignment can run into difficulties of inadvertently adopting a view of a linear progression from resource use efficiency to sustainable food systems, which can also assume conventional production as the starting point. This can marginalise smallholders already practicing elements of agroecology. Furthermore, efforts to align individual principles with just one of Gliessman's levels for simplicity can undermine the intention that the principles are meant to be considered as inter-connected and integrated aspects of agroecology, rather than being isolated [15] (p. 19).

The approach to the case studies included identifying key products, characterisation of food "sub-systems" ranging from convention production for global and national value chains through to ecological production using quality assurance mechanisms of varying

formality. Study areas were defined first in reference to municipal boundaries, with flexibility to accommodate actual food flows. A central node for each site was identified. Stanford, a small town in the Overstrand Local Municipality (LM), was the central node for this study.

Initial data were collected through literature gathering and review, including municipal and departmental planning and review documents, academic publications, newspaper reports, company annual reports, and 'grey literature'. This material provided a site-specific context and situation analysis for the food system, broadly delineated the geographical scope of the local, and enabled identification of key products and actors for follow-up in the field.

Prior to field visits, we discussed the study with local contact points in the site, who were also included in the research reference group. These are individuals known by the authors, working on the specific or related initiatives in the area. These contacts supported the study through enabling access to key informants and provided valuable contextual information. This allowed us to align the research with existing processes from the outset. A key objective was to ensure that the research could add value to the initiatives, rather than merely extracting information.

We engaged with a diversity of actors including farmers, civil society organisations (CSOs), government officials, value-chain actors, researchers, and local experts. Interviews were mostly scheduled ahead of time, but we also relied, to an extent, on "snowballing", i.e., following up on additional contacts we obtained while in the field. Field visits were conducted during February and March 2022. Twelve semi-structured interviews and three focus groups were conducted and recorded in audio and text in person and online based on free, prior, informed consent and following Stellenbosch University's approved ethics protocols (Stellenbosch University Research Ethics Committee: FESCAGRI-2021-23996). A site report was drafted and shared with participants for comment. We received positive feedback from the site.

## 3. Results

### *3.1. Policy Environment*

The phase one research showed that the overall policy framework is contradictory, reflecting the ongoing contestations at the heart of South African society. For food and agriculture, large-scale commercial agriculture and big business is the dominant voice, in the discourse of global competitiveness, export orientation, commercial value chains and finance. However, within the policy mix there are also relatively consistent voices on environment and climate, and a (more muted and fragmented) voice in favour of ecologically sound, mass-based and socially just transformation. These voices contest and contradict each other.

Overall, there is no overarching policy on agroecology, but elements of agroecological practice and motivations are scattered throughout the policy landscape especially on social, nutrition, and ecological grounds. Numerous policies, plans and programmes have elements that can be consolidated to underpin an agroecology strategy. There is significant convergence in agricultural and environmental policies especially around climate change, biodiversity and natural resource management (NRM) that orient towards more ecologically sustainable production practices. Food and nutrition security plans offer possible pathways to agroecological transitions.

A national agroecology strategy, if revitalized since being stagnant since 2013, could provide coherence, structure and orientation to the agroecological elements of a relatively disconnected but related suite of policies and implementation plans, as well as provide an effective integrating framework for food system transition, biodiversity conservation and sustainable use, and climate change response [16].

### *3.2. Assessing Agroecological Initiatives through the Gliessman Levels*

#### 3.2.1. Level 1: Increase the Efficiency of Industrial and Conventional Practices in Order to Reduce the Use and Consumption of Costly, Scarce, or Environmentally Damaging Inputs

The HLPE principles of recycling, input reduction, soil health, and animal health relate to Gliessman's Level 1. As Gliessman indicates, this relates primarily to resource use efficiency, and most conventional agricultural research takes place at this level.

In the Rûens, large-scale commercial farmers have increasingly adopted CA as a response to soil degradation and herbicide resistance in the context of rising input costs and low commodity prices [17]. CA is based on three core practices: intercropping and/or crop rotations, minimal soil disturbance (low or no-till), and permanent ground cover (crop residues or living plants).

The Western Cape has the highest adoption rate in the country [18] (p. 2), with an average of 51% of grain farmers adopting all three legs of CA. Ninety-five percent are carrying out crop rotation, though fewer keep stubble in the fields [18]. Winter grain farmers in the Overberg have become core CA adopters, shifting towards regenerative agriculture that incorporates core CA practices and explicitly includes livestock integration and reduction in synthetic inputs.

This offers an example of "pragmatic adaptation". The change is not transformative: local embeddedness is weak; the profit-driven orientation based on commodity production through economies of scale remains central, and the industrialisation of agriculture is consolidated by heavy mechanization and a surge of specialized contractors which use adaptation as a new opportunity. However, it facilitates awareness of sustainability issues, with incipient integration with biodiversity conservation and NRM.

#### 3.2.2. Level 2. Substitute Alternative Practices for Industrial/Conventional Inputs and Practices

Level 2 introduces agroecological or organic practices. HLPE principles related to Level 2 are recycling, input reduction, soil health, animal health, biodiversity, synergy and land and natural resource governance. Activities in Level 2 are found in both initiatives identified in the Overberg.

In the Rûens, substitution includes recycling of on-farm biomass, no- or low-till production, use of legumes for nitrogen fixation, crop rotation, intercropping, crop diversification, permanent ground cover/utility crops, organic matter addition and biological soil fertility, monitoring soil health, and scouting for pests and diseases, all with the purpose of substituting synthetic fertilisers and pesticides. In livestock, high density and rotational pasture grazing are replacing or reducing the intensity of industrial feedlot production.

In the Overstrand, organic farmers have decisively shifted from industrial inputs and practices and have adopted multiple ecological practices. These include on-farm biomass recycling, biological pest management, reduction in synthetic fertilisers and pesticides with the intention of complete substitution over time, use of legumes for nitrogen fixation, crop rotation, cover crops, organic matter addition, and monitoring of soil health. A constraint is availability of cost-effective ecological inputs. In livestock, practitioners engage in outdoor pasture-raised poultry production, biological disease management with no vaccinations, deep-pile composting in the chicken coops, high-intensity rotational grazing with mobile coops and temporary electric fencing, solar panels for power, and lime wash to kill parasites.

Without a government-approved organic standard, the South African Organic Sector Organisation (SAOSO) has developed a local Standard for Organic Production and Processing [19], which is included in the IFOAM Family of Standards (https://www.ifoam.bio/our-work/how/standards-certification/organic-guarantee-system/ifoam-family-standards, accessed on 27 February 2023). Principles underpinning the local standard have a strong overlap with agroecological principles. They include on-farm wildlife refuge habitats, soil and water conservation, adopting the precautionary principle regarding 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, among others. Producers aim to comply with the SAOSO Standard, on which PGS certification is based. The Overberg PGS has provided technical and material support for the adoption of organic practices by the Zizemeleni community-based farming cooperative.

#### 3.2.3. Level 3: Redesign the Agroecosystem So That It Functions on the Basis of a New Set of Ecological Processes

Level 3 moves from the incremental reforms of Levels 1 and 2 towards more systemic transformation, remaining at the local scale of the farm and immediate surroundings. Although this level focuses on redesign at farm level, we have extended it to also consider integration of agricultural production systems into wider landscapes. This aspect of food systems transformation is missing in the Gliessman categories. Levels 4 and 5 emphasise linkages between farms and the wider food systems, moving towards a concept of territorial food systems. But they are not explicitly integrated into local ecosystems. With this amendment, HLPE principles relevant to Level 3 are biodiversity, land and natural resource governance, and synergy. In the specific Overberg context, the principle of economic diversification has relevance.

On-farm practices have impacts that extend beyond the farm boundaries, for example wider ecological impacts of synthetic fertiliser and pesticide use on land, water and biodiversity. In both the Overstrand and Rûens initiatives, relevant practices include intercropping, crop diversification, biological soil fertility measures, polycultures, cover crops, use of legumes for nitrogen fixation, and biological pest and disease management.

A strong dimension in the Overstrand is integration of organic farming systems into wider biodiversity conservation and sustainable use and participatory land and natural resource governance.

Two-thirds of the Overberg municipal area is classified as 'natural habitat' [8] (p. 133). Wildflower exports are a lucrative niche. However, biodiversity is threatened by IAPs, fires and weak management. Landowners are becoming more sensitive to the risk of IAPs. 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 [11] (p. 169). Pressure from land redistribution to justify land use, too, "is stimulating some level of discomfort" [20]. Coupled with a nature conservation focus, this has resulted in significant biosphere conservation efforts both by the state and private landowners.

The Agulhas Biodiversity Initiative (ABI) (https://agulhasbiodiversity.co.za/, accessed on 27 February 2023) was launched in 2003 as a voluntary association of landowners with the government on landscape-level biodiversity conservation. In 2010, the ABI focused its strategy around five thematic areas: renewable energy, green economy, environmental education, responsible tourism and integrated land use planning and management. The green economy incorporates natural resource use and services, fire, alien clearing, erosion control, and wetland restoration.

In 2011, ABI established a voluntary association for land management, and in 2013 they contracted with the Expanded Public Works Programme (EPWP) via the national Department of Environmental Affairs and Tourism (DEAT, now the Department of Forestry, Fisheries and the Environment, DFFE) on IAP clearing. The EPWP consists of three-yearly contracts, with supplementary philanthropic funds and landowner payments. ABI works with 100 farmers in nine land-use groups based on existing farmer or ratepayers' associations. Initially, they employed 240 people in teams of 10, clearing around 10,000 ha, but budget cuts reduced this to 140 people clearing 6000 ha.

As a member of the ABI, the Overberg PGS has played an important role in promoting efforts to expand biodiversity conservation to incorporate livelihoods and income generation for the population excluded from conservation efforts to date. This includes significant initiatives on developing the circular economy, including development of cooperatives to

use biomass from IAP clearing for composting and use in organic farming initiatives, and efforts to increase the share of value received by small-scale flower pickers.

Overberg produces 33% of the cultivated wildflowers in the Western Cape, with the majority on the Agulhas Plain [21]. Packhouses exercise significant power in the local part of the supply chain, determining picking teams and prices. They manage harvesting teams and control value distribution between suppliers and buyers. Exporters dominate the industry, with an estimated 92% of flowers being exported in 2008 [11] (p. 88).

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.

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 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 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 20 c 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" [22].

In the Rûens, the Overberg Renosterveld Conservation Trust (ORCT) (https://overbergrenosterveld.org.za, accessed on 27 February 2023) was established in 2012 to manage and conserve renosterveld (a species-rich area which has shrunk into many small and highly threatened fragments as a result of industrialized agriculture over the past 100 years) through a combination of land purchases and conservation easements, linking fragments through the restoration of corridors, and awareness-raising amongst landowners. The Tygerberg Research Farm aims to introduce natural corridors into CA 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 ABI, which is considering the development of a district-wide biosphere reserve.

#### 3.2.4. Level 4: Re-Establish a More Direct Connection between Those Who Grow Our Food and Those Who Consume It

The strongest divergences between the large-scale commercial CA initiative in the Rûens and the Overberg PGS in Overstrand emerge at Level 4. The relevant HLPE principles are connectivity, economic diversification, fairness, social values and diets, co-creation of knowledge, and participation.

The CA initiative remains locked into large-scale commercial supply chains that mostly export primary produce and some processed products (e.g., canola oil) out of the area mainly into sub-national and national markets. As such, there is a sharp separation between producers and consumers, with multiple intermediaries between them.

In contrast, a closer connection between producers and consumers is a fundamental objective of the Overberg PGS. The scheme started in 2016 and is affiliated with PGS South Africa (https://www.pgssa.org.za/, accessed on 27 February 2023), a national network established in 2011 to assist with local market access for organic and agroecological farmers, supported by the SAOSO PGS Pollinators' Programme. PGS is a second-party organic certification system that provides quality assurance based on diverse local actors (farmers, consumers, retailers and other actors in the local system) monitoring farms for compliance and providing support through periodic farm visits. The system is based on trust and social networks. PGS is cheaper and more accessible than third-party certification, with an emphasis in South Africa on smallholder farmers and local markets.

The Overberg PGS procures organic fresh produce from local farmers and a community garden for a box scheme. Wealthy consumers cross-subsidise cheaper boxes for resource-poor consumers. Initially, four organic farms joined up, with numbers growing to twelve. Produce is delivered to storage at Stanford. The box is then assembled and delivered weekly to customers in Stanford, surrounding areas, and Cape Town. About 50% of sales are at the Oranjezicht Market at the Waterfront in Cape Town. Currently, mutual support within the PGS is mainly on shared transport to market, but there are efforts to strengthen coordination and other aspects of the scheme.

The objective of the PGS box is not to generate big profits, but to sustain small producers, including the Zizemeleni Cooperative which consists of resource-poor producers. After paying participating producers, profits from the box scheme are returned to Food 4 Thought, a local NGO, to subsidise food relief and provide support to Zizemeleni [22,23]. Overall, the box scheme currently makes only a very small contribution to the local food supply, but it indicates one aspect of a multi-dimensional niche activity with the potential for scaling out over time.

#### 3.2.5. Level 5: Change Is Global in Scale, Depth and Reach, and Involves Reform across Food Environments and Food Supply Chains

Long-term transitions do require that agroecological alternatives build agency and democratic ownership across food systems, and also that these alternatives are rooted in material improvements in livelihoods for producers and consumers alike. This requires new relationships between producers and consumers based on democratic decisions and action. Most of the farmers in the initiatives in the Overberg are currently maintaining their profitability in markets, including export, national and local markets. However, over time, it is expected that elements of a solidarity economy will come to the fore, where food is produced and distributed according to need, starting from the local level. This does require wider economic transformation. Nevertheless, evidence suggests that even within a market framework, agroecology can outperform conventional agriculture on yields and farm profitability. However, data are scarce and more research would need to be carried out to assess this over time [24].

The initiatives are still at early stages, and wider food system engagements and reforms remain distant. However, there are efforts, especially by the Overberg PGS, to engage systematically with local authorities to promote wider food system restructuring and transformation in favour of marginalised producers and consumers.

Local and district municipal plans encompass eco-tourism, agro-tourism, SMME and informal sector development, including food retail, preferential public procurement for smallholders and local enterprises, and emerging farmer support, including the provision of land and inputs for home food gardens. The short-term economic recovery strategy aims to improve and expand public employment programmes [8] (pp. 237–239). There are links to provincial programmes such as the 'Nourish to Flourish' strategy in connection with the Western Cape Economic Development Partnership (https://wcedp.co.za/, accessed on 27 February 2023). The provincial Department of Agriculture also has programmes in the area, but these are not currently coordinated with the municipality. However, like most municipalities, these activities are relatively marginal in responding effectively to local needs, especially in spatial planning and housing.

The Overstrand PGS has started working with the Overstrand LM to channel local economic development (LED) activities towards support for alternative food system development and integration of production systems into wider landscape management and natural resource conservation and use [22]. This includes support to community gardens, farms, small, medium and micro enterprises (SMMEs) and cooperatives, management of informal trade, and the implementation of the Community Works Programme (CWP) and EPWP. Some of these activities are under the umbrella of or related to the Township and Rural Entrepreneurship Programme (http://www.dsbd.gov.za/programme/township-and-rural-entrepreneurship-programme, accessed on 27 February 2023) implemented by

the Department of Small Business Development (DSBD), the Small Enterprise Development Agency (SEDA) and the Small Enterprise Finance Agency (SEFA).

Among these activities, two initiatives are of specific interest regarding sustainable development: the Municipal Applied and Green Initiatives and Concepts (MAGIC) initiative, and use of public employment programmes. MAGIC is a civil society initiative on inclusive economic transformation initiated in 1994. In 2012, 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 the municipal level. A key aspect of the process is consolidating a single secondary cooperative on sustainable development in each municipality, incorporating all primary cooperatives across several economic sectors. The secondary cooperative becomes the interface between CSOs and the municipality. Together, they form a transparent and accountable special purpose vehicle for integration into LED and Integrated Development Plan (IDP) planning processes, including preferential public procurement.

> "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 . . . 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 . . . 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". [22]

The ward committee is a site for intervention. The committee consists of area-based reps, community-based organisations, and NGO-based reps. Members are selected through community elections. Most 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" [22].

The Zizemeleni Cooperative has potential as a secondary cooperative, integrating various initiatives and activities, including food production, alien vegetation clearing, sustainable flower harvesting, land reform, public employment and LED 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 bring others onto the programme). EPWP and the Working for Fire and Working for Water (WfW) programmes subsidise teams for alien vegetation clearing.

The CWP pays a stipend to some participants to work at the Zizemeleni garden for eight days a month. It is only for the unemployed and those earning less than R3 500/month. After the eight days, the workers can continue in the garden if they choose, and the cooperative pays from its own income for extra days based on monitored days of work [23]. The garden has a memorandum of understanding with the municipality on CWP and selected its own manager. Not all workers are beneficiaries of the CWP, and efforts to include others are hampered by ineffective bureaucracy [22,23].

## 4. Discussion

### *4.1. Conceptualising Transitions towards Agroecology*

In the South African context, defining agroecology requires a strong emphasis placed on social justice and redress dimensions. Many other countries working on agroecological transitions in food systems do not face the same extent of inequality or historical injustice as South Africa, which, to date, have been inadequately addressed in the post-apartheid era. Any meaningful transition in South Africa must ensure it simultaneously responds

to the ecological imperatives and the need for social redress and a meaningful stake in economic activity to secure lasting social cohesion, peace and prosperity for all.

An agroecological approach, therefore, calls for an extension beyond environmental sustainability alone to incorporate elements such as improved farm worker and farm dweller conditions, food sovereignty, redistribution of land and other resources to black ownership, altering the economic structure for gender and social inclusion, and diversification of the agrarian structure to incorporate more small- and medium-scale, black and women producers. Agroecology is also explicitly understood to embrace diverse indigenous practices that rebalance the denigration and exclusion of local and indigenous knowledge imposed under colonialism and apartheid. This finds expression in the core agroecological principles.

One way that transitions can occur is through innovations in protected niches that may have an impact on the dominant socio-technical regime [3]. Niches are intentionally developed through a community of actors. Activities may be heterogenous and not clearly visible, especially when still emerging. The incumbent regime retains strong selection power over innovations [25,26] (p. 63).

Wezel et al. [26] provide a useful framing for defining agroecology territories as places where a transition process toward sustainable agriculture and food systems is engaged. There are three major domains:

(i) Adaptation of agricultural practices;
(ii) Conservation of biodiversity and natural resources;
(iii) Development of embedded food systems.

The objective is to link farm-scale activities with a landscape approach by integrating farming and non-farming activities throughout a larger area. Territories must consider local authority boundaries, sociotechnical networks, the intersection of farming systems and ecosystems, territorial resources, governance of the commons, and the embeddedness of food systems. Stakeholder group strategies are developed by those actively engaged in the three domains [26] (pp. 133–135).

Adapted agricultural practices work towards integrating ecosystem services at field, farm and landscape scales, with activities on agricultural biodiversity, conservation of species and natural habitats in a territory, and ecological corridors in agricultural landscapes, with "composite landscapes" integrating agriculture and biodiversity conservation. Water, soil, biodiversity and NRM are critical to this [26] (pp. 137–138). Embedded food systems refer to multi-actor processes and democratic governance, with socio-technical networks expanding beyond farming and "localisation" of production, distribution and consumption links [26] (p. 139). These three domains provide a useful integration of agriculture, NRM and food systems reflected in the case study.

### *4.2. Place-Based Approaches Can Catalyse Local Initiatives*

Places provide the appropriate level of emphasis to address local challenges, opportunities, and restrictions, since people live in places, not sectors. Places provide the means for stakeholder networks to identify the right scale of action, to mobilize local resources and direct them toward projects with local significance as well as the chance to create coalitions of actors with shared interests and to resolve common problems, such as those relating to environmental sustainability [27].

This raises the need to build multi-actor coalitions to develop agroecological food system pilots in specific locations. Such initiatives can facilitate agroecological transitions in local food systems, integrating sustainable agriculture practices, household and local food and nutrition security, small enterprise development in the bioeconomy, sustainable biodiversity conservation and use, climate change adaptation and landscape approaches. Different from a localisation approach, place-based initiatives recognise the potential role of local government and local actors in guiding place-based food systems towards goals of economic inclusion, environmental sustainability and food and nutrition security.

Municipal-level partnerships between government, farmers, consumers and NGOs are crucial. Language and emphasis need to shift from "filtering down" to the local government level as the implementers towards the co-development of policy and programming from the ground up. This raises the importance of placing agroecological principles and practices at the core of discussions on better integrating food system transformation in urban policies and planning at a grassroots level.

Agroecological food system planning at municipal and district levels enables multiple value additions. Municipalities are overwhelmed by existing mandates in the context of limited human and financial resources. Yet opportunities exist for local government to support more sustainable food systems, particularly as they have a key role in local food environments. LED offers opportunities in terms of employment creation, deployment of labour to build and maintain productive resources, waste management, and land allocation, amongst other responsibilities. This calls for including food systems in drafting and revising the local development strategy, reflected in IDPs, and increased support for strategy design.

Beyond the local municipality, collaboration is required between provincial and municipal authorities. As revealed by overlapping yet contrasting approaches (conventional agriculture versus agroecology), there are tensions between provinces and municipalities which constrain multiple-level governance. The emerging initiatives offer chances for collaboration, cross-sectoral coherence, and assimilation of agroecological values.

### *4.3. Potential Exists for SMMEs in the Bioeconomy*

Potential exists for SMMEs in the bioeconomy to 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 flower harvesting, follow-up clearing and reseeding of natural fynbos, potentially planting orchards, control plans, assessments of harvestable population stocks, and rangeland and livestock management. However, this needs investment and integrated support across departments and levels of government.

Integrate public employment programmes into ward priorities and IDPs, with an emphasis on creating SMME opportunities in agriculture and the bioeconomy. The Overberg offers a practical example of a route towards this and can be learned from and replicated elsewhere. Multi-actor engagement can promote transparency and learning to overcome existing challenges with the deployment of resources for public employment programmes.

### *4.4. A Transition to AE Requires State Support*

The transition to more sustainable systems and agroecological practices cannot rely only on market forces. Even if new practices could be certified and rewarded with premiums, local markets are generally not "ready", and there is a large section of the market that lacks the resources for any products with a cost premium. Conversion times, during which time there may be yield dips, are estimated to be five to nine years, depending on the state of resources and types of production. Demand is outstripping supply in agroecological and organic input production and supply, and the cost of these inputs remains prohibitive for conversion.

We recognise that public sector support is likely to be tenuous, especially in conditions of austerity and economic weakness. However, systematic transitions can benefit from catalytic state support, i.e., short- to medium-term resources that can facilitate the development of systems and practices. Initiatives in Overberg show a potential pathway to secure such support, building on existing government programmes wherever possible and piecing together a strategy that utilises these available resources. This allows for short-term support, rather than waiting for a comprehensive public sector programme before initiating actions.

Past transitions (e.g., the adoption of Green Revolution techniques) were and continue to be heavily supported (through subsidies and extension). Subsidies and support are required for the anticipated long conversion times. Conversion subsidies for defined

activities should be considered. However, these should be conditional on the explicit extension of activities to social justice and redress and economic transformation in favour of the marginalised and excluded. Agroecology offers an integrated framing to assess the types of practices that would be required to qualify for subsidy.

Aside from the environmental elements, examples of criteria for subsidy are 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, livestock herding and management, alien vegetation clearing, wildflower harvesting, and biomass and wildflower processing and sales, amongst others. Funding is required for public sector research on and development of agroecological inputs and production, bulk production of biofertilizer and ecological pest management products, participatory pilots and demonstrations, and curriculum development and upskilling in extension services.

Finally, reengagement in strategic thinking and supportive public policies is much needed. If modernization and productivity gains were the vehicles for social and economic progress in past transitions, their limitations and unsustainability require a new vision of plausible futures where AE food systems have a critical role to play. If revived after remaining dormant since 2013, a national agroecology strategy could provide coherence, structure, and orientation to the agroecological components of a relatively disjointed but related suite of policies and implementation plans. It could also serve as an effective integrating framework for the transition to sustainable food systems, biodiversity conservation and use, and climate change adaptation.

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## Appendix A

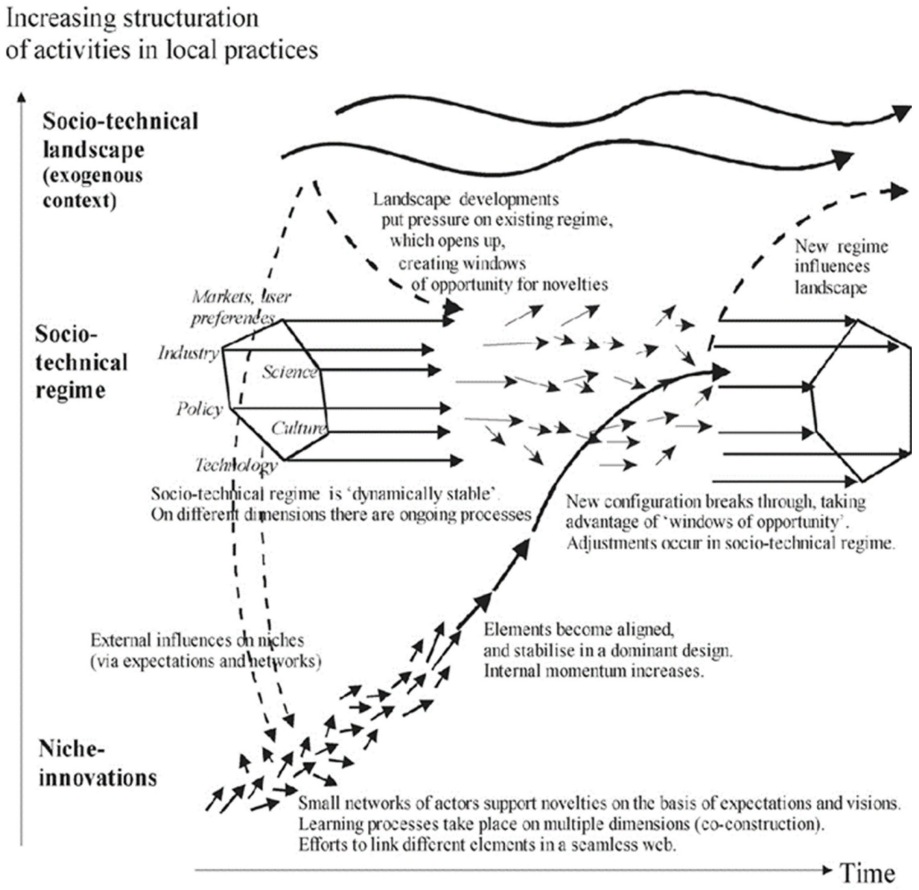


**Figure A1.** Multi-Level Perspective on transitions [3] (p. 401).

**Table A1.** HLPE 13 agroecological principles [12].

| |
|---|
| 1. Recycling. Preferentially use local renewable resources and close resource cycles of nutrients and biomass as far as possible. |
| 2. Input reduction. Reduce or eliminate dependency on purchased inputs and increase self-sufficiency |
| 3. Soil health. Secure and enhance soil health and functioning for improved plant growth, particularly by managing organic matter and enhancing soil biological activity. |
| 4. Animal health. Ensure animal health and welfare. |
| 5. Biodiversity. Maintain and enhance species diversity, functional diversity and genetic resources, thereby maintaining overall agroecosystem biodiversity in time and space at the field, farm and landscape scales. |
| 6. Synergy. Enhance positive ecological interaction, synergy, integration and complementarity among the elements of agroecosystems (animals, crops, trees, soil and water). |
| 7. Economic diversification. Diversify on-farm incomes by ensuring that small-scale farmers have greater financial independence and value-addition opportunities while enabling them to respond to consumer demand. |

**Table A1.** *Cont.*

| |
|---|
| 8. Co-creation of knowledge. Enhance co-creation and horizontal knowledge sharing, including local and scientific innovation, especially through farmer-to-farmer exchange. |
| 9. Social values and diets. Build food systems based on local communities' culture, identity, tradition, and social and gender equity that provide healthy, diversified, seasonally and culturally appropriate diets. |
| 10. Fairness. Support dignified and robust livelihoods for all actors engaged in food systems, especially small-scale food producers, based on fair trade, fair employment and fair treatment of intellectual property rights. |
| 11. Connectivity. Ensure proximity and confidence between producers and consumers by promoting fair and short distribution networks and re-embedding food systems into local economies. |
| 12. Land and natural resource governance. Strengthen institutional arrangements to improve, including the recognition and support of family farmers, smallholders and peasant food producers as sustainable natural and genetic resources managers. |
| 13. Participation. Encourage social organization and greater participation in decision-making by food producers and consumers to support decentralized governance and local adaptive management of agricultural and food systems. |

## References and Notes


1. Greenberg, S.; Drimie, S.; Losch, B. Transitions to Agroecological Food Systems in South Africa–Policy Landscape and Strategic Opportunities: Synopsis for an Agroecology Transition in South Africa. TAFS Policy Brief 1, 2022. Available online: https://foodsecurity.ac.za/wp-content/uploads/2023/04/TAFS-Policy-Brief-1.pdf (accessed on 27 February 2023).
2. Greenberg, S.; Drimie, S.; Losch, B. Learning from Local Initiatives for Agroecological Development in South Africa. TAFS Policy Brief 2, 2022. Available online: https://foodsecurity.ac.za/wp-content/uploads/2023/04/TAFS-Policy-Brief-2.pdf (accessed on 27 February 2023).
3. Geels, F.; Schot, J. Typology of sociotechnical transition pathways. *Res. Policy* **2007**, *36*, 399–417. [CrossRef]
4. Municipalities.co.za. Available online: https://municipalities.co.za/img/maps/overberg_district_municipality.png?1519287239 (accessed on 27 February 2023).
5. Overstrand Local Municipality (OLM). *Overstrand Municipality Spatial Development Framework*; OLM: Hermanus, South Africa, 2020.
6. Department of Forestry, Fisheries and Environment (DFFE). State of Conservation Report for the Cape Flora Region Protected Areas. 2019, DFFE, Pretoria. Available online: https://whc.unesco.org/document/180364 (accessed on 27 February 2023).
7. Overberg District Municipality (ODM). *Overberg District Climate Change Response Framework*; Overberg DM: Bredasdorp, South Africa, 2017.
8. Overstrand Local Municipality (OLM). *Overstrand Municipality Integrated Development Plan Review 2021/22*; OLM: Hermanus, South Africa, 2021.
9. Department of Cooperative Governance and Traditional Affairs (COGTA). *Overberg District Municipality Profile and Analysis, District Development Model 01/52*; COGTA: Pretoria, South Africa, 2020.
10. Spaull, N.; Daniels, R.C.; Ardington, C.; Branson, N.; Breet, E.; Bridgman, G.; Brophy, T.; Burger, R.; Casale, D.; English, R.; et al. NIDS-CRAM Wave 5 Synthesis Report. 2021. Available online: https://cramsurvey.org/wp-content/uploads/2021/07/1.-Spaull-N.-Daniels-R.-C-et-al.-2021-NIDS-CRAM-Wave-5-Synthesis-Report.pdf (accessed on 27 February 2023).
11. Overberg District Municipality (ODM). *Overberg District 4th Generation Integrated Development Plan 2017-18 to 2021-22*; Overberg DM: Bredasdorp, South Africa, 2017.
12. High-Level Panel of Experts on Food Security and Nutrition (HLPE). Agroecological and Other Innovative Approaches for Sustainable Agriculture and Food Systems that Enhance Food Security and Nutrition. 2019. Available online: https://www.fao.org/3/ca5602en/ca5602en.pdf (accessed on 27 February 2023).
13. Wezel, A.; Herren, B.; Bezner Kerr, R.; Barrios, E.; Goncalves, A.; Sinclair, F. Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. *Agron. Sustain. Dev.* **2020**, *40*, 40. [CrossRef]
14. Gliessman, S. Transforming food systems with agroecology. *Agroecol. Sustain. Food Syst.* **2016**, *40*, 187–189. [CrossRef]
15. Partnership for Social Accountability (PSA) Alliance. Agroecology Financing Analysis Toolkit (AFAT) for the Public Sector in Africa. 2022. Available online: https://psa.copsam.com/2022/11/25/new-analysis-tool-shows-low-support-for-agroecology-in-international-and-nationalagricultural-funding-in-africa/ (accessed on 27 February 2023).
16. African Centre for Biodiversity (ACB). An Assessment of Support for Agroecology in South Africa's Policy Landscape: Background Document. 2023. Available online: https://acbio.org.za/corporate-expansion/assessment-of-support-for-agroecology-in-south-africas-policy-landscape/ (accessed on 27 February 2023).
17. Interview with researchers, Elsenberg Tygerhoek Research Farm, Riviersonderend. 9 February 2022.

18. Strauss, J.; Swanepoel, P.; Smit, E. A history of conservation agriculture in South Africa. *South Afr. J. Plant Soil* **2021**, *38*, 196–201. [CrossRef]
19. South African Organic Sector Organisation (SAOSO). SAOSO Standard for Organic Production and Processing v1.7. 2020. Available online: https://www.saoso.org/wp-content/uploads/2021/11/SAOSO-STANDARD-FOR-ORGANIC-PRODUCTION-AND-PROCESSING-2020-V1.7.pdf (accessed on 27 February 2023).
20. Interview with alien clearing contractor, Bredasdorp. 11 February 2022.
21. Interview with organic farmer, Stanford farms. 11 February 2022.
22. Interview with organic farmer, Stanford farms. 8 February 2022.
23. Interview with staff member, non-government organisation (NGO)/cooperative, Stanford. 7 February 2022.
24. D'Annolfo, R.; Gemmill-Herren, B.; Graeub, B.; Garibaldi, L. A review of social and economic performance of agroecology. *Int. J. Agric. Sustain.* **2017**, *15*, 632–644. [CrossRef]
25. Klerkx, L.; Aarts, N.; Leeuwis, C. Dealing with incumbent regimes: Deliberateness and serendipity of innovation agency. In Proceedings of the 9th European IFSA Symposium, Vienna, Austria, 4–7 July 2010.
26. Wezel, A.; Brives, H.; Casagrande, M.; Clément, C.; Dufour, A.; Vandenbroucke, P. Agroecology territories: Places for sustainable agricultural and food systems and biodiversity conservation. *Agroecol. Sustain. Food Syst.* **2016**, *40*, 132–144. [CrossRef]
27. May, J.; Losch, B. Place-based approaches to food system resilience: Emerging trends and lessons from South Africa. In *Resilience and Food Security in a Food Systems Context*; Béné, C., Devereux, S., Eds.; Palgrave/MacMillan: Cham, Switzerland, 2022. [CrossRef]