UNIVERSITY of the WESTERN CAPE

PLAAS
Institute for Poverty, Land and Agrarian Studies

COVID-19 IMPACTS:

HOUSEHOLD FOOD PRODUCTION, AGROECOLOGY, RURAL LIVELIHOODS AND ALTERNATIVE FOOD SYSTEMS

PLAAS RESEARCH REPORT No. 58

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We would like to thank different organisations that assisted us in the villages of Ozwathini in KwaZulu-Natal and Ncerha in the Eastern Cape in South Africa. In Ncerha, we worked closely with Isithembiso Multipurpose Organisation which supports local farmers to adopt sustainable farming practices. Xolelwa Koncoshe of Isithembiso deserves a special mention for assisting the research team with access to the local community and farmers. At the time of the research, Isithembiso worked closely with The Movement in Africa, an organisation which promotes sustainable farming amongst smallholder farmers. We gained many insights from workshop and field demonstration activities with farmers in Ncerha.

In Ozwathini, PLAAS colleagues were already conducting research on African Food Systems funded by the International Development Research Centre (IDRC). This provided us with sufficient background knowledge of the area and how smallholder farmers had been adversely affected by COVID-19. Some local organisations also played a significant role in highlighting the key issues affecting smallholder farming systems in Ozwathini. We would like to thank Mahlathini Development Foundation and the Farmer Support Group (University of KwaZulu-Natal) for sharing insights on smallholders and ecologically sustainable farming practices in Ozwathini and neighbouring communities.

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EXECUTIVE SUMMARY

The COVID-19 crisis accentuated the enduring contradictions of a concentrated global food system, highlighting the pressing need for alternative food economies which are localised, predicated on greater connections between producers and consumers, and promote the use of ecologically sustainable farming methods that yield healthy and nutritious foods. This report analyses household food production in two rural localities, namely Ncerha in the Eastern Cape and Ozwathini in KwaZulu-Natal. It explores specifically the extent to which local household food producers use agroecological farming methods, and whether such practices can form the basis of alternative food economies, especially in the context of COVID-19 and the far-reaching ramifications it had on the wider food system.

The overarching questions that informed this report are: to what extent have farmers in Ncerha and Ozwathini adopted ecologically-friendly farming practices, what has been the contribution of these practices to the development of alternative food systems, in what ways have these farming practices enhanced local food economies during COVID-19, and with what success. The research utilised in-depth, qualitative methods to gather data from 46 household food producers through life history interviews. The life histories were supplemented by a survey documenting, inter alia, the diversity of livelihoods and key farming activities of the households and the impacts of COVID-19. Key informant interviews with civil society members, researchers, agricultural experts, and policymakers also provided insights into the challenges within local food systems.

Homestead gardens are important for household food provisioning and income generation for smallholder farmers producing surplus for the market. The extent to which local food producers integrate natural and ecologically-friendly farming methods into their agricultural activities is important in promoting sustainable food systems. However, findings from this research show that the practice of agroecological methods remains fragmented and tenuous among local food producers. Very few of the farmers in this study rely exclusively on sustainable agroecological farming methods, while most farmers combine agroecological and industrial methods depending on the prevailing constraints and the availability of support and resources. Yet those who do utilise sustainable methods are insulated from the expenses that come with reliance on conventional agro-inputs. Some key constraints to the practice of agroecology include limited markets and appropriate knowledge, lack of inputs and technologies, and fragmented and insufficient government support. Government programmes and support remain steeped in conventional approaches to farming, and efforts by non-profit organisations, although significant, can only succeed as part of a broader effort involving multiple actors working purposively to reconfigure the current food system. The concentrated food system continues to predominate and shape the fortunes of small-scale food producers in rural locales like Ncerha and Ozwathini in profound ways. COVID-19 intensified the precariousness of local food producers and diminished their capacity to navigate the pressures they endure within a concentrated food system dominated by a few powerful corporations. Efforts to build back food systems should entail a radical shift from the entrenchment of the current corporate food system and ensure significant support for alternatives. Thus, prospects for scaling out remain limited, and only multi-pronged support for alternatives, involving the state and other key actors, can foster the structural transformation of the current food system.

1. INTRODUCTION

This research report focuses on the extent to which household food production and sustainable forms of agriculture, specifically agroecological practices, can contribute to the development of sustainable and locally embedded food systems. The need for alternative and localised food economies has become abundantly clear following the COVID-19 crisis and its adverse impacts on the food system. It has exposed the inherently exclusionary nature of South Africa's concentrated corporate food regime and the multiple ways in which it entrenches and exacerbates inequalities (Hall and Wegerif, 2021). Scholars and land activists have argued for the need to reconfigure South Africa's corporate-driven food system by creating spaces for more localised food systems that unite local producers and local markets in mutually beneficial relationships (Greenberg, 2020).

The COVID-19 global pandemic represents a major and unprecedented shock to world economies and the global food system. In many respects, it is illustrative of how such shocks, for instance climate change, can adversely affect world populations. In the global south, where huge populations rely on informal employment, COVID-19 national lockdowns exacerbated hunger and food insecurity. The crisis revealed major weaknesses in the highly concentrated global and national food systems, especially how the exclusive focus on production and profitability within corporate-driven food systems tends to exacerbate inequalities, food hunger and insecurity.

In the South African context, some analysts have argued that, in spite of the COVID-19 impacts on the food system, food supplies remain unaffected and food shortages and food insecurity are minimal (Sihlobo, 2020). However, this does not reflect realities on the ground. Many commentators have long argued that the current food system marginalises small-scale farmers and does not meet the food requirements of poor populations. While these challenges preceded the COVID-19 crisis, a recent publication by PLAAS (2020) reveals the multiple ways in which the national lockdown exacerbated inherent structural weaknesses in South Africa's concentrated and corporate-driven food system.

Amongst the proposals for the reconstruction of food systems and building back better in the aftermath of COVID-19 is the adoption of agroecological approaches as a pathway to sustainable and resilient food economies. Among other things, agroecology emphasises ecologically friendly farming practices within localised food economies which empower local food producers, especially smallholder farmers. Such approaches are offered as an alternative to unsustainable industrial farming methods and the exclusionary corporate food system. Besides the short-term ameliorative responses to COVID-19 (which included food parcels and food banks to ensure food access to the poor), these more transformative, long-term approaches, therefore, aim to reconfigure the foundational aspects of the corporate food system, and this may partly entail adopting agroecological principles both at farm level and in the wider food system.

Agroecology is inherently an appropriate response to the COVID-19 crisis and its aftermath, given that it enhances food system resilience – "the capacity over time of a food system and its units at multiple levels, to provide sufficient, appropriate and accessible food to all, in the face of various, even unforeseen circumstances" (Tendall et al, 2015). Building resilient food systems should be anchored in emerging alternatives and practices in local food provisioning and sustained support to ensure that these local practices can be replicated and scaled up.

The COVID-19 crisis has provided an opportune moment to promote policies in favour of historically marginalised alternatives, such as agroecology, given its centrality to developing sustainable and resilient food systems. However, any support for such

alternatives will have to contend with an entrenched and hegemonic corporate food system which, according to Weis (2007), is often seen as inevitable.

Intensive fieldwork in the rural communities of Ncerha in the Eastern Cape and Ozwathini in KwaZulu-Natal, focusing on farming practices in local agroecosystems and the impacts of COVID-19 provides lenses into the potential and possibilities for agroecological transition and building resilient alternatives to the crisis-prone corporate food system. This research report analyses the communities' attempts to practise sustainable farming in a corporate food system, and how local food provisioning and ecologically sustainable farming systems in rural areas can be promoted as a pathway to alternative and resilient food systems post-COVID-19.

2. COVID-19, GLOBAL ECONOMIC CRISIS AND THE FOOD SYSTEM

The convergence of multiple shocks within the global economy constitutes a polycrisis of unprecedented proportions, with adverse implications for the realisation of equitable food systems. The enduring contradictions within the global food system have become more acute as the effects of these shocks unfold. These contradictions have historical antecedents, emanating from the way powerful states and corporations have, at different conjunctures reconfigured the global food economy into the current corporate-dominated food regime. The recent series of crises – from the 2008/09 global food crisis to the COVID-19 induced economic crisis, the Ukraine War and its impacts on global food supply chains, and the calamitous effects of climate change – have converged to produce a polycrisis which is affecting the global food economy in multiple ways.

A major cause of adverse outcomes and contradictions within the global food economy is that large private corporations operating in concentrated markets have greater leeway to pursue short-term economic gains at the expense of the public good (Clapper, 2021). Corporate dominance in agriculture has become increasingly associated with a broadly inverse relationship between the scale of agriculture in an economy and the prevalence of hunger (Weis, 2007). Although large-scale industrial farming models promoted by private corporations have yielded exponential increases in food supplies, this has not translated into adequate food supplies for poor populations, especially in developing countries (Weis, 2007). In addition, the current food system is associated with a higher prevalence of diet-related chronic illnesses, such as obesity and diabetes, which impose a huge burden on healthcare.

The convergence of multiple shocks within the global economy constitutes a polycrisis of unprecedented proportions, with adverse implications for the realisation of equitable food systems.

Ironically, the default response to global food crises has been to increase support for industrial farming, despite its association with entrenched inequalities and poor human welfare outcomes (Clapp and Moseley, 2020).

The current polycrisis has seen particularly poor human welfare outcomes within food systems, and the privileging of profits can only worsen the marginalisation of poor populations even in times of crisis.

The impacts of COVID-19 on the global food system have been distinct from previous pandemics that have affected humanity. This is because the economic conditions of contemporary capitalism are vastly different. Since the post-World War I period, the global economy has become highly

integrated and interdependent, so that major shocks in one part of the globe tend to produce a contagion effect on the entire global economic system (Van der Ploeg, 2020).

The wider transformations that have reshaped the global food economy in the last 150 years are best explained by the "food regimes" concept. Food regime analysis is a historical method to unpack "the political, economic, social (and now ecological) questions in relation to the production and circulation of food on a world scale" (McMichael, 2016: 650). Thus, the historical analysis of periodic transformations in the global economy and their implications for the production and circulation of food provides important insights into the contemporary global food system (ibid.).

Three phases can be identified in the wider transformations that reshaped the production and circulation of food on a global scale. The first food regime, from 1879-1914, was centred on the British empire and anchored by the production of food commodities in the colonial peripheries. This imperial conjuncture saw metropolitan states and firms reducing the cost of labour through mass production of staples, including grain, meat, sugar and coffee, in settler states and the European empire (McMichael, 2009: 284).

The first food regime gave way to the second food regime, which consolidated in the post-World War II period with the USA as its centre. This regime occasioned the massive flow of agricultural surpluses to developing countries, partly through food aid as a precursor to cheap food imports. This conjuncture was characterised by the worldwide industrialisation of agriculture and the popularisation of green revolution technologies alongside the emergence of powerful agrofood corporations (McMichael, 2009; 2016).

According to McMichael (2009), although conditioned by previous food regimes, the third (and current) food regime has its own distinctive features. The market is now the main organising principle and not the empire or state as in the previous food regimes (McMichael, 2009: 285). However, states still play a significant role in structuring this food regime as evidenced by the "unstable combination of Northern subsidies (for food and now agrofuel production) and Southern agricultural liberalisation through WTO rules (and related free trade agreements)" (McMichael, 2009: 285). These broader shifts have created fertile ground for the predominance of private corporations in the global food economy.

The existence of "large numbers of spread out, independent farmers capable of producing in closed-loop agro-ecosystems presented an impediment to the ability of capital to appropriate surplus from agriculture" (Weis, 2007: 70). The subsequent transformation of farms into through-flow systems dependent upon external inputs then created opportunities for capital to control agriculture from the production side (Weis, 2007: 70). Since the 1970s, the global food economy has witnessed increasing corporate concentration, with agro-transnational corporations (agro-TNCs) achieving dominance and transforming the nature of agriculture both horizontally across space and vertically through input and commodity chains (Weis, 2007: 161-162).

The subsequent transformation of farms into through-flow systems dependent upon external inputs then created opportunities for capital to control agriculture from the production side.

The possibility for the current polycrisis crisis to yield equitable and transformative alternatives will be determined by the capacity to transcend the path-dependent solutions to previous crises that have confronted the global food economy. The default policy approach has been to revert to productionist solutions steeped in industrial farming and

green revolution technologies (Clapp and Moseley, 2020). The assumption has been that harnessing technologies to boost global food supplies will generate food surpluses to meet increasing food demand, including the food requirements of the poor. In the process, industrial agriculture, which resides at the core of the corporate food system, has been entrenched. The overreliance on productionist policies thrives under the "illusion of inevitability", which portrays industrial agriculture and the corporate food system as impregnable and inevitable, thereby making alternatives seem impossible (Weis, 2007). According to Weis (2007: 162):

> *The illusion of inevitability is given strength by the fact that the rapidly expanding corporate webs directing the global food economy are at once undeniably bountiful, increasingly ubiquitous, boldly branded and yet remarkably opaque to most people, while the institutional fortification is hidden from sight and much attention.*

On the transformative potential of crises within the global food economy, Weis (2007: 8-9) argues that "whether the transformations that emerge out of contradictions and crises are for good or for ill depends upon popular consciousness, social organisation and strategic action and initiatives". Currently, South Africa is characterised by the lack of a coherent agroecological movement with the bargaining capacity to challenge mainstream policies which only serve to entrench the central place of industrial farming in the food system.

A coalitional approach is imperative in challenging the "illusion of inevitability" (Weis, 2007). So far, the "small core of practitioners" advocating for sustainable farming in South Africa is drawn from fragmented practices like permaculture, organic or agroecological farming (Greenberg, 2011). However,

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there is a "sharp bifurcation between those oriented towards a rich niche market and those oriented towards resource-poor farmers to make the most of their conditions" (Greenberg, 2011: 29). Beyond farming practices within the farming system, broader interventions to influence legislation and policies are dependent on the existence of a more cohesive movement that can exert the necessary societal pressure for transformative change in the agricultural and food systems space.

Despite corporate dominance of the food system and fragmented efforts to build alternatives, many efforts within civil society, both longstanding and nascent, possess great potential for building alternative food systems. However, success in building alternatives to the corporate food system can be greatly enhanced through the scaling up of such initiatives. This may be in the form of bringing more farmers into these initiatives (scaling out) or political scaling up to influence public policy to be supportive of agroecology. In the study sites in Ncerha and Ozwathini, we documented efforts by non-governmental organisations (NGOs) to promote alternatives. More details on aspects of these initiatives are summarised (Boxes 1 and 2) in the section on "support for agroecological and sustainable farming practices" (see Section 9) of the report.

3. AGRICULTURAL RESTRUCTURING AND THE FOOD SYSTEM IN SOUTH AFRICA

This section analyses some of the key features of South Africa's food system, specifically how agricultural restructuring has entrenched corporate interests within the food system. South Africa's food regime reflects the broader global trends towards greater corporate concentration and control across the different nodes of the food system. The agricultural restructuring of the 1990s represents a key defining moment in the dismantling of institutional support and subsidies that had cushioned the agricultural sector in previous decades. This took the form of liberalisation policies meant to 'free' the markets and deregulation measures, which saw the reduction of the role of the state in the economy including state expenditure (Greenberg, 2015: 963). These set of measures had wide-ranging and far-reaching impacts on the different areas of the agricultural sector.

The deregulation measures reconfigured the governance structure of South Africa's agro-food system, creating fertile ground for corporate control and consolidation. Agricultural restructuring in South Africa reached its zenith with the promulgation of the Marketing of Agricultural Products Act 46 of 1996, which augmented the role of private corporations in agriculture (Greenberg, 2015).

The reduction in state subsidies was accompanied by a reduced role of the state in agriculture, and this reduced role included the provision of "baseline quality control" in the sector and "managing some level of research and development", albeit in a "corporatised form" (Greenberg, 2015: 963). The restructuring also resulted in the dismantling of the affected boards and the disposal of their assets to private commodity associations to manage on behalf of each sector, for instance, grain and beef commodity sectors (Greenberg, 2015: 963). Among other things, these commodity associations were expected to foster the development of black commercial farmers in their respective sectors (ibid.). Meanwhile, the withdrawal of credit and input subsidies raised the cost of credit, thereby exacerbating farmer indebtedness.

Another key development was the enactment of the Cooperatives Amendment Act of 1993, which enabled the privatisation of agricultural cooperatives, transferring significant assets into private hands (Greenberg, 2015). The newly privatised cooperatives soon broadened their business scope and subsequently became key players in South Africa's corporate food regime. The corporatisation of cooperatives was characterised by mergers and acquisitions centred on core cooperatives, such as Oos Transvaal Koop (which became Afgri), Senwes, Noord Wes Koop (NWK) and Vrystaat Koop Beperk (VKB) (Greenberg, 2015: 963).

In addition, small cooperatives were merged into larger cooperatives as the latter became fully-fledged businesses with a provincial, national and continental footprint (Greenberg, 2015: 963). These processes contributed greatly to corporate consolidation in South Africa's food system, whose key features include an agrarian structure dominated by large capitalist farms, a concentration in the agro-inputs and food processing industries, and the rise of retail supermarkets in food distribution.

The deregulation measures reconfigured the governance structure of South Africa's agrofood system, creating fertile ground for corporate control and consolidation.

Thus, large capitalist farms became highly integrated into the global value chains and these commercial farms maintain dominance in South Africa's agrarian structure. There has been a precipitous decline in the number of large-scale commercial farms, from 60 000 in 1996 to 35 000 in 2014 (Hall and

Cousins, 2015). The overall thrust towards land concentrations is captured in Statistics South Africa's (StatsSA) Agricultural Census (2017) which shows that 2 610 large farms (those with annual income of more than R22.5 million) constituted 6.5% of the total number of farms in the commercial agriculture industry and accounted for 67.0% of total income and 51.4% of total employment.

Growing corporate concentration is evident in the input supply and agro-processing industries, too. According to the African Centre for Biosafety (ACB), despite the lack of information on market share, data on ownership of seed varieties and breeders' rights provide some insights into concentration in South Africa's seed sector (ACB, 2012). In South Africa, four companies – namely Pioneer Hi-Bred International, Pannar, Klein Karoo Seed and Monsanto SA – own 68% of maize seed varieties. Moreover, in terms of ownership patterns of the top 10 seed crops (top 10 companies hold 76% of the top 10 seed varieties), these four companies own more than half of all varieties of the top 10 crops (ACB, 2012). Corporate concentration is also evident in food processing, where the 10 largest packaged food companies account for 51.8% of the total packaged food sales, in contrast to only 7.3% of processed packaged food from artisanal food companies (Igumbor et al., 2012: 2).

These broader trends in corporate concentration are manifest in food distribution, where a few large retail supermarkets have penetrated even the most remote locales. Large retail supermarkets have developed sophisticated food procurement channels with a prominent role for procurement specialists and in-house companies often by-passing spot markets and traditional food procurement avenues, like municipal fresh produce markets (Ortmann and King, 2010).

From the above, it is clear that agricultural restructuring has contributed immensely to the entrenchment of corporate control in South Africa's food system. The contemporary food system in South Africa is essentially a "corporate food regime" which bears some of the key contradictions associated with the corporate-dominated global food system (McMichael, 2016). Large corporations at the centre of this food system have coalesced around a productivity approach to the food economy, where the focus is on increasing food supplies and maximising profit. Within this constellation, enduring questions on human welfare, and environmental and ecological impacts of the food economy are peripheralised. More specifically, corporate concentration in South Africa's food system has become a significant structural barrier to the emergence of alternative food economies such as agroecology.

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4. COVID-19, LIVELIHOODS AND SOCIAL REPRODUCTION

It is widely acknowledged that the COVID-19 crisis mapped onto existing social inequalities and exacerbated the precariousness of marginalised populations, especially in developing countries. (Francis, Valodia, and Webster, 2020). However, some analysts have argued that it represents an opportune moment to foster equitable and inclusive development. To do so requires seeking solutions that transcend path-dependent approaches which have produced most of the contemporary economic inequalities (Francis et al, 2020). It also means transcending productionist approaches, which focus on increasing food supply while neglecting the exclusionary nature of corporate-driven food economies. Francis et al (2020: 343) argue that such opportunities exist, just as when Keynesian policies adopted under the auspices of welfare states in post-World War II Europe ensured equitable development through the decommodification of education, health and transport.

However, any efforts to foster the egalitarian moment in South Africa reminiscent of post-World War II Europe need to contend with the path-dependent, vicious cycle of labour-displacing growth, pervasive unemployment and ubiquitous inequality (Francis et al, 2020). While Northern industrialised societies have historically been composed largely of full-time permanently employed workers, often represented by national industrial unions, in the South, there is a multiplicity of classes and class fractions, which include the working poor, the informal sector, the unemployed, small entrepreneurs and peasants (Francis et al, 2020: 349-350). These various groups do not have access to secure and remunerative employment and, consequently, they have disproportionately borne the brunt of the COVID-19 induced economic fallout.

However, some of the initial mainstream interventions during the pandemic did not sufficiently respond to the differentiation amongst these different social classes and, instead, prioritised support for the middle class (Jamieson and van Blerk, 2021). Most of the ameliorative measures by commercial banks – such as interest holidays on mortgages, loans and credit cards and reduced premiums from insurance companies – were meant to cushion

> **Some analysts have argued that [the COVID-19 crisis] represents an opportune moment to foster equitable and inclusive development.**

their middle-class clients. (Jamieson and van Blerk, 2021). For those in formal employment, the COVID-19 Temporary Employee/Employer Relief Scheme (TERS) covered between 30% and 60% of their salary with a cap of R6 730 per month (Jamieson and van Blerk, 2021). Those who lost their jobs could also claim from the Unemployment Insurance Fund (UIF) (ibid.). The bias in mainstream support exacerbated the inequalities between the poor, the middle classes and the elites. In addition, spatial and gendered disparities in economic opportunities meant that rural areas, women and children endured the worst impacts of the economic crisis (Jamieson and van der Blerk, 2021: 6).

The COVID-19 crisis profoundly disrupted the food system and triggered a sharp increase in food prices. Various research and media reported rising food inflation, especially the prices of staples and fresh produce (PLAAS, 2020; PMEJDG, 2020). Since street traders and spaza shops play a key role in the distribution of food, especially in marginalised neighbourhoods, many poor households struggled to access food. Disruptions in food production and distribution significantly contributed to food inflation, undermining the ability of the poor to access food (UNDP, 2021: 42). As a result, increasing numbers of poor households were unable to meet their

basic food requirements, exacerbating food insecurity and hunger (PLAAS, 2020).

The Pietermaritzburg Economic Justice and Dignity Group's (PMEJDG) household affordability index shows that while urban areas experienced food inflation with the onset of COVID-19, remote rural locales experienced acute food price increases (PMEJDG, 2020). The closure of schools intensified the crisis of food hunger experienced by poor households, which benefitted from the National School Nutrition Programme (NSNP). According to Jamieson and van Blerk (2021: 4), "Before lockdown, over nine million children at schools in the poorest three quintiles received daily meals through the NSNP, and about 2.5 million 3-5-year-olds were attending some kind of early childhood development programme that provided food". When schools were closed, this programme was halted.

During the hard lockdown, emergency food aid became critical in alleviating the impacts of COVID-19 on the poor. Besides the private sector and civil society's efforts to distribute emergency food aid, the government's food parcels programme became a key avenue for food distribution (Seekings, 2020). However, inefficiencies within the food parcels programme impeded the effective distribution of food. Some concerns included the lack of registers and appropriate databases, political corruption, and contractors profiteering and shaving off the value of food reaching the poor (Griffiths, 2020).

State welfare transfers averted some adverse impacts of COVID-19 on livelihoods given their prominent role in post-apartheid redistributive measures. They also had a significant impact on household social reproduction dynamics. The social grant infrastructure became useful for channelling social relief to households experiencing acute social reproduction pressures during the pandemic. According to National Treasury (2020), there are 18.2 million social grant recipients in South Africa. At the onset of the COVID-19 crisis, the South African government introduced a set of social relief measures through a stimulus package amounting to R500 billion and equivalent to 10% of the GDP (Köhler and Bhorat, 2000). This enabled the expansion of social assistance, mainly in the form of an increase in the amount of every existing conditional grant and the introduction of a COVID-19 Social Relief of Distress (SRD) Grant until the end of March 2023. With the top-up of existing conditional grants, Child Support Grant (CSG) beneficiaries received an additional R500 between June 2020 and October 2020, while other grant beneficiaries were topped up with R250 during the same period. The CSG constitutes the largest grant in terms of the number of beneficiaries, accounting for 71% (or nearly 13 million individuals) of total recipients (Köhler and Bhorat, 2000). Before the COVID-19 crisis, there was no grant for unemployed adults. The SRD grant was introduced as a temporary measure to support the unemployed. To be eligible for the SRD grant, recipients are expected to not have any income, including access to student loans, social grants, unemployment insurance fund (UIF) payments or other forms of support from the government (Jamieson and van Blerk, 2021: 6).

During the hard lockdown, emergency food aid became critical in alleviating the impacts of COVID-19 on the poor.

Besides the comprehensive CSG, old-age grants are a key source of financial support for poor households in South Africa. Access to sizeable monthly payments by old women has, for instance, shifted their role from caregivers to becoming breadwinners, supporting adult co-residents and grandchildren within multi-generational households (Button, 2017). Moore and Seekings (2017) note that the state has redrawn the boundaries of the grandmother's responsibility in multigenerational households in which adult children are increasingly dependent on the grandmother's pension. Despite their seniority and comparatively secure economic status, older women do not always enjoy increased social standing in their households (Button, 2017).

The prominent role of older women in multi-generational households, historical changes including young men's access to wage employment, albeit increasingly scarce, and new migration patterns with younger women also flocking to the cities, are all part of the transformations that combine to amplify intra-household tensions and reshape social reproduction dynamics in contemporary South Africa. In rural contexts like Ncerha and Ozwathini, such intergenerational tensions are partly evident in the continued dwindling of control over family labour, and in the withdrawal of young men and women from agricultural work (de La Hay and Beinart, 2017).

A series of relief measures targeting farmers were introduced in three phases. The first was the COVID-19 Agricultural Disaster Support Fund for Smallholder and Communal Farmers who had an annual turnover of between R50 000 and R1 million (DALRRD, 2020). The adjudication prioritised women, youth and people with disabilities (DALRRD, 2020). The Department of Agriculture, Land Reform and Rural Development (DALRRD) ring-fenced R1.2 billion for assistance to mainly financially distressed small-scale farmers (DALRRD, 2020). Of the R1.2 billion, R400 million was allocated for farmers within the Proactive Land Acquisition Strategy (PLAS) programme, and the remainder was channelled towards other farmers in different commodity sectors (DALRRD, 2020). When the relief was dispensed, R4.2 million was awarded incorrectly to 117 state employees who applied, and only R87 000 was recovered (DALRRD, 2022).

The second relief measure targeting farmers was the Farming Input Voucher (FIV) programme. Some 46 864 vouchers were disbursed and 37 275 redeemed by small-scale farmers with an average of five household members per voucher, of whom at least two were children (Solidarity Fund, 2021). The impact of the initiative can only be adequately measured after the farmers have harvested the produce from the inputs procured using vouchers (Solidarity Fund, 2021). The FIV programme aimed to disburse R100 000 000 in R2 000 vouchers to subsistence farmers, most of whom are in rural areas of South Africa (Solidarity Fund, 2021). A total of 46 864 vouchers were disbursed to the value of R93 868 000, and 79.54% of these had been redeemed by 31 May 2021 (Solidarity Fund, 2021).

Without transformative interventions, the differentiated impacts of COVID-19 on the world's populations are likely to be experienced again when other major crises, such as climate change, strike.

The Presidential Employment Stimulus Initiative for Subsistence Farmers (PESI) was the third relief measure introduced to support vulnerable individuals and groups (DALRRD, 2021). It aimed to support 50% women, 40% youth and 6% people with disabilities. Child-headed households, farm dwellers, farmworkers and military veterans were also prioritised for support through this initiative (DALRRD, 2021). Support provided to subsistence producers was limited to the type and quantities of commodity applied for, and the size of the operation was physically verified on-site. The amount of support ranged between R1 000 and R12 000 (DALRRD, 2021).

The initial phase was suspended on 13 January 2022 following a public outcry on exorbitant costs incurred when redeeming inputs. Some middlemen expected farmers to purchase inputs at a fee of 27% of the original value (Food for Mzansi, 2022). In some instances, input suppliers and retailers colluded to charge 50% or more than the retail value of the inputs (Food for Mzansi, 2022). The second phase of the PESI programme was initiated with the aim of benefiting no fewer than 50 000 subsistence producers in addition to the 88 251 farmers initially targeted for support, of whom 51 559 were supported by the DALRRD under the first phase of PESI and 36 692 received Solidarity Fund support (DALRRD, 2021).

5. AGROECOLOGY AND ALTERNATIVE FOOD ECONOMIES

The need to promote alternatives to the corporate food system has become urgent. Without transformative interventions, the differentiated impacts of COVID-19 on the world's populations are likely to be experienced again when other major crises, such as climate change, strike.

Agroecology is considered one of the key interventions to create strong localised food production systems that empower local farmers and are based on ecologically friendly farming practices which, unlike industrial farming, do not cause ecological and environmental damage. Experts define agroecology as "the application of ecological concepts and principles to the design and management of sustainable agroecosystems or the science of sustainable agriculture" (Gliessman, 2018). From initially focusing on the farm level, agroecology now encompasses the ecology of the entire food system involving all its participants (Gliessman, 2018).

In 2018 the Food and Agriculture Organisation (FAO) identified 10 principles of agroecology, emphasising the following criteria: enhancing diversity by ensuring food security while conserving, protecting and enhancing natural resources; co-creating and sharing of knowledge; promoting synergies across food systems; increasing efficiency and decreasing reliance on external inputs; recycling to lower economic and environmental costs; building the resilience of people, communities and ecosystems; promoting human and social values to enhance livelihoods, equity and social well-being; elevating local culture and food traditions; encouraging responsible governance; and supporting circular solidarity economies that connect producers and consumers (FAO, 2018).

Proponents of agroecology and other alternatives to industrial agriculture have been confronted with fundamental questions on how to scale up. Scaling up is essentially about ensuring that greater numbers of people practise sustainable farming "over ever larger territories", including participation in the processing and distribution of agroecologically produced food (Gacho et al, 2018). In addition, successfully scaling up requires changes that enable agroecology to percolate through institutions, policies and laws (Gacho et al, 2018).

Agroecological transitions often involve not only the deepening of agroecological practices within farming systems but also the horizontal scaling out of practices. Deepening involves seeking ever more synergies and improvements to the agroecological system itself, while horizontal scaling out is when

Table 1: Agroecological transition model by Gliessman (cited in Wezel et al, 2009)

Agroecological transition – pathway to alternative food economies		
Transformational	Level 5: Build a new global food system based on participation, localness, fairness and justice	Food system
	Level 4: Reconnect consumers and producers through the development of alternative food networks	
	Level 3: Redesign agroecosystems	
Incremental	Level 2: Substitute conventional inputs and practices with agroecological alternatives	Agroecosystem
	Level 1: Increase the efficiency of input use and reduce the use of costly, scarce or environmentally damaging inputs	

Proponents of alternative food systems have been confronted with entrenched views on the efficacy and indispensability of industrial agriculture.

greater numbers of families practise agroecology over ever larger territories. Scaling out also entails engaging more people in the processing and distribution of agroecologically produced food and ensuring that agroecology percolates through institutions, policies and laws (Gacho et al, 2018).

Gliessman (2005) identified five phases that are critical to agroecological transition and fostering sustainable food systems (see Table 1). The first three levels focus on the deepening of agroecological practices. The initial task involves reducing the overall use of conventional inputs, such as fertilisers and pesticides, by introducing organic and ecologically sustainable inputs. The second phase entails replacing synthetic inputs with more sustainable inputs, such as biofertilisers and organic pest management products without necessarily reorganising the farming system. According to Gliessman (2005), level three seeks to go beyond minor tweaks and prioritises the reorganisation of food production through the intentional application of multiple agroecological practices, such as intercropping, the use of compost manure, and mixed farming.

In contrast, levels four and five focus on how to develop structures and leverage relationships beyond the farm to support the agroecological transition overall. In level four, the priority is to strengthen connections between producers and consumers by creating and sustaining markets for agroecologically produced food. Finally, level five focuses on an even deeper and wider transformation of policies, rules, institutions and culture with an emphasis on social justice, democracy and other broader shifts (Gliessman, 2005: 31).

However, proponents of alternative food systems have been confronted with entrenched views on the efficacy and indispensability of industrial agriculture. Mainstream arguments have often questioned the viability of practices like agroecology, specifically the extent to which they can form the basis of alternatives to industrial agriculture. Productionist narratives highlight the contribution of industrial farming to global food supplies as key to meeting the food needs of the ever-growing world population. This is contrasted with the low yields of low-input ecological farming.

6. AGROECOLOGY IN SOUTH AFRICA: KEY CHALLENGES

There are context-specific challenges that shape the pathways to agroecological transition and the extent to which farmers and communities adhere to often cited principles of agroecology. Examining the South African context, Greenberg and Drimie (2021) note that it is more realistic to consider the principles of agroecology as aspirational. A "maximalist approach", which requires producers to be operating across all the identified elements of the system in order to qualify as being agroecological, may not reflect the complexities and realities on the ground. In fact, with a maximalist lens, "there would be almost no agroecology in South Africa" (Greenberg and Drimie, 2021: 12).

Instead, a "minimalist approach" that emphasises "the adoption of diverse ecological production techniques and their integration at farm and landscape levels" has more heuristic value (Greenberg and Drimie, 2021: 12). The minimalist criteria are "no use of genetically modified (GM) seeds, synthetic fertilisers or pesticides that are toxic to humans, animals and the soil" (Greenberg and Drimie, 2021: 12). According to Greenberg and Drimie (2021: 12), in this case, "labels such as organic, agroecological,

conservation agriculture, etc are less important than the actual practices (or more accurately prohibited practices)".

The nascent practices in agroecology and other sustainable farming practices exist against the background of a largely underdeveloped policy terrain characterised by fragmented policies. In Greenberg and Drimie's (2021) assessment, policies promoting agroecology remain underdeveloped, fragmented and ineffective. They identify three broad policy categories: the overall national planning frameworks, the policies aligned to the "neo-liberal approach" that "actively hinder the development of agroecological transitions and practices", and policies that "open space for agroecology even if unevenly and sometimes in contradiction with other policy elements in the same or other policy elements" (Greenberg and Drimie, 2021: 29).

The overall national planning framework, specifically the Bill of Rights, provides guarantees for a range of social and environmental rights, and the National Development Plan (NDP) articulates South Africa's long-term development vision. Some key plans with implications for agroecology flow from the NDP, for instance, the Medium-Term Strategic Framework (MTSF), the Industrial Policy Action Plan (IPAP) and the Agricultural Policy Action Plan (APAP). A key contradiction in these plans is that while they variously contain some principles that are somewhat favourable to agroecology, they largely promote export-oriented, high-input, industrial agriculture (Greenberg and Drimie, 2021).

Policies promoting agroecology remain underdeveloped, fragmented and ineffective.

Some of the key policies that hinder agroecological transitions are steeped in the green revolution approach to small farmer support and development. According to Greenberg and Drimie (2021), these policies not only reflect the dominant power structures in the food system and agriculture but are essentially the default mode for small-scale farmer support. Key government programmes like the Comprehensive Agricultural Support Programme (CASP), Ilima/Letsema and Fetsa Tsala prescribe green revolution technologies, which entail the use of genetically modified, synthetic agrochemicals and mechanised farming (Greenberg and Drimie, 2021). Most of these technologies are underpinned by rigid and exclusive intellectual property requirements that are inimical to the empowerment of local and indigenous farming practices. To illustrate, in the seed industry, "the Genetically Modified Organisms Act of 1997, the Plant Breeders' Rights Act (PBRA) and the Plant Improvement Act (both updated in 2018) establish the commercial framework for promoting IP rights, commercial standards and certification processes based on global standards and accommodation of GM and hybrid seeds at the expense of locally adapted indigenous seeds" (Greenberg and Drimie, 2021: 33).

Some relatively favourable policies, although located in different departments such as the Department of Agriculture, Forestry and Fisheries (DAFF) and the DALRRD, do provide a space to advance alternatives to the current food system. Civil society has variously used the constrained space to develop draft policies which, if widely promoted and adopted, hold great potential to reconfigure the policy terrain in South Africa. Key among these are the Draft National Organic Policy (2010) and the Draft National Agroecology Strategy (2013). Although these draft policies are progressive, they do not have significant momentum and their successful adoption is predicated on wider support from multiple actors, at multiple levels, within the state, in the private sector and broader society.

Any meaningful analysis of the potential for agroecology in South Africa needs to consider the political economy of historical land dispossessions and the large-farm path that the country has followed. South Africa has a dualistic agrarian structure which is dominated by large-scale commercial

farms. These farms largely operate using industrial methods of farming that emphasise the production and profit model. Their overriding goal is to maximise yields, and this requires "radical simplification" of agriculture, for instance through mono-cropping. Mono-cropping in industrial-type farming means that "the numerous members of the biotic community tend to be ignored unless they have a direct bearing on health and yields of the species to be harvested" (Scott, 1998: 263). Although the large commercial farming sector in South Africa predominantly relies on industrial methods, Greenberg and Drimie (2021) note that there have been some efforts dating back to the 1970s to practise sustainable agroecological farming by a small segment of commercial farmers. Such pockets of sustainable farming in the commercial farming sector alongside support for sustainable practices in smallholder farming systems offer the potential for scaling up alternatives to the corporate food system.

South Africa's smallholder farmers in the former homelands have historically been neglected and continue to receive insufficient state support in contemporary times. Despite narratives on the decline of agricultural production in the former homelands, some studies show that this has not been a totalising process (Andrew and Fox, 2004; Mtero, 2015). It is estimated that there are approximately 2.5 million smallholder farmers confined to the former homelands. The majority of these farmers are resource-poor and often produce to meet household food needs, while a small segment of the smallholder population (approximately 250 000) are market-oriented farmers producing some surplus (Aliber and Cousins, 2013).

Although rural households have increasingly abandoned the large outlying fields, homestead food production has remained resilient, albeit with minimal and often fragmented support from the state. Some studies show intensive garden cultivation in the former homelands with smallholder farmers using organic manure and intercropping practices ensuring high productivity levels (Andrew and Fox, 2004). Thus, homestead gardens have played a significant role in household food provisioning in the context of a growing population, male absenteeism and shrinking livestock and financial resources (Andrew and Fox, 2004).

> **Any meaningful analysis of the potential for agroecology in South Africa needs to consider the political economy of historical land dispossessions and the large-farm path that the country has followed.**

Cousins and Chikazunga (2013) provide a useful typology for understanding differentiation in the smallholder farming sector in South Africa (see Table 2). The typology enables us to go beyond the tendency to treat smallholder farmers as a uniform and undifferentiated category. Cousins and Chikazunga (2013) identify a range of factors that may be used to analyse the diversity within South Africa's smallholder sector. Most of the households in Ncerha and Ozwathini fall within categories 1 and 2. Category 1 consists of subsistence-oriented smallholders, while Category 2 consists of market-oriented smallholders in loose value chains. Typologies are an important heuristic device for approximating the character of the smallholder differentiation sector; however, they do not fully capture the complexity within these production systems.

Concerning the subsistence category, it is noteworthy that "there are no fully subsistence farmers anywhere on the continent" and "rather than subsistence and production for sale being opposed states, they are strategies" (Peters, 2013: 551). According to Peters, "most small-scale farmers and often medium-scale farmers have been known to deploy both strategies". Peters notes that "the degree of subsistence understood as the proportion of own needed staple food produced, is positively correlated with the sale of crops" and "it is precisely the better off

Table 2: Cousins and Chikazunga's (2013) typology on smallholder farmers

Criteria	Category 1: Subsistence-oriented smallholders	Category 2: Market-oriented smallholders in loose value chains	Category 3: Market-oriented smallholders in tight value chains	Category 4: Small capitalist farmers
Objective of production	Household consumption of additional food	Household consumption and cash income	Cash income and some home consumption	Profit
Proportion of marketed output	None or insignificant	50% or more	75% or more	100%
Contribution to household income	Reduces expenditure on food	Variable: from small to significant	Significant	Very significant
Labour	Family	Family and some hired	Family and significant numbers hired	Hired
Mechanisation	Very low	Low	Medium to high	High
Capital intensity	Very low	Low	Medium to high	High
Access to finance	Absent	Some	Significant	Very significant
Estimated numbers in South Africa	2-2.5 million households	200 000-250 000 households	5 000-10 000 households	5 000-10 000 households

with most land and income who are well-positioned to produce much of all their needed staples". In contrast, "the poorest in land and cash tend to be more dependent on the market for their own consumption" (Peters, 2013: 551).

Since the outbreak of COVID-19, there has been growing recognition that smallholder farmers can significantly contribute to the development of more sustainable, diversified and localised farming systems to ensure household food security and resilient food systems. Much of the focus on alternatives has been on urban food systems. There have been initiatives to map out small-scale urban food production and provisioning. As such, the emphasis has been on ensuring that produce from different types of gardens – home gardens, school gardens and community gardens – is directed to food-insecure urban households to avert food hunger during lockdown. However, household food production remains vibrant in rural areas and these smallholder farming systems can be harnessed to promote alternatives to the corporate food system.

7. DESCRIPTION OF STUDY SITES

During the hard lockdown, many interventions to ensure food access for the vulnerable were evident in urban areas. In rural locales, however, concerns grew about further marginalisation (Mogale 2020). Research shows that some responses to the crisis were short-term and meant to avert acute hunger during a crisis, while others tried to nourish local food economies by connecting food-insecure households with farmers who were struggling to access markets (Mtero, Hornby and de Satgé, 2020). The urban bias of COVID-19 initiatives to promote food access limited the possibility of harnessing the agricultural potential of rural households in food provisioning especially in times of crisis. Rural locales in South Africa have a history of successful household food production in small homestead gardens through the intensive use of animal manure (Andrew and Fox, 2004) and have demonstrated their resilience for cropping after shifting from cultivating large fields (Mtero, 2015). The COVID-19

crisis provided an opportune moment to examine household food production in these locales and the role of small-scale farmers in the practice and scaling up of sustainable, ecologically friendly farming and the building of alternative food economies, post-COVID-19.

Ncerha is approximately 30 km from East London (see Figure 1) and falls under the Buffalo City Municipality. In Ncerha, large-scale agricultural investments – a government maize scheme and a Macadamia nuts project – enjoy significant state support, while small-scale food production in homestead gardens, although important for local livelihoods, has not been sufficiently prioritised. Ozwathini is a rural area in the midlands of KwaZulu-Natal under the Ndwedwe municipality (see Figure 2). Land-based livelihoods are important for the survival of households in Ozwathini and most small-scale farmers in the area practise mixed farming, combining cropping and livestock rearing. However, commercial agriculture is prominent in the area, mainly forestry and sugar cane production. Precarious small-scale food production exists alongside these large-scale farmlands. In both Ncerha and Ozwathini, cultivation of large fields has declined significantly, and there is increased focus on homestead gardens. This is mainly due to the precariousness of small-scale farmers in a concentrated food system where large capitalist farms with economies of scale can afford to remain competitive. Lack of state support and investment in smallholder agriculture also undermines local smallholder farming, especially dryland cropping in large fields.

We conducted fieldwork from July to October 2021. This included life history interviews to document household history, farming activities and COVID-19 impacts. In total we conducted 46 life history interviews – 23 in Ncerha and another 23 in Ozwathini. In addition to the life histories, we conducted a small-scale survey on the 46 households to get more information on household structure and composition, livelihood sources, local farming systems and COVID-19 impacts. We also conducted key informant interviews with government officials, seed and input suppliers, fresh produce markets, community members and civil society. In the Eastern Cape, we conducted interviews with 11 key informants while in KwaZulu-Natal we interviewed 7 (see Table 3).

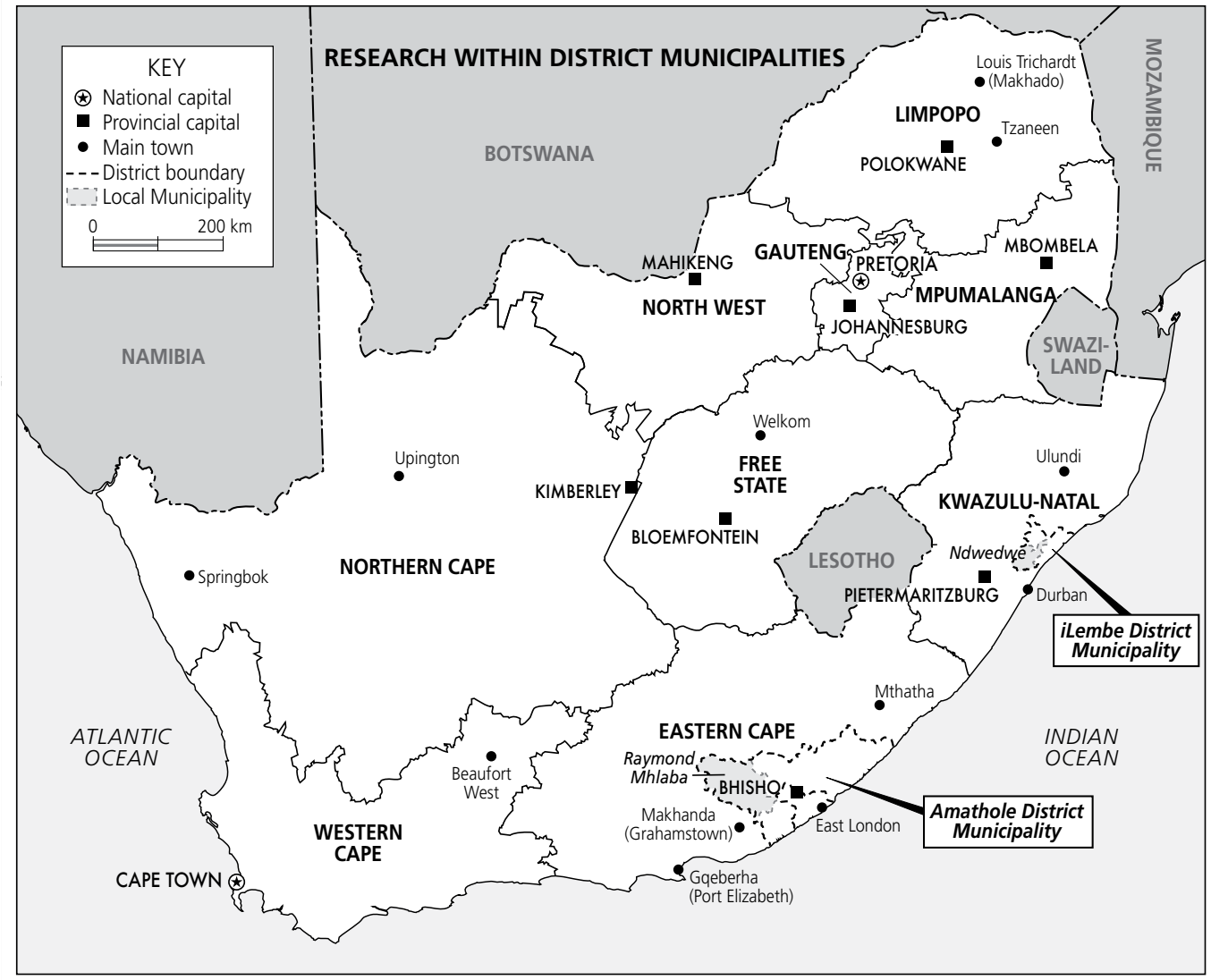
> **In most instances, the farmers are resource-poor and cannot afford the increasingly high costs of agro-inputs in industrial farming.**

The research report analyses the extent to which household food production can contribute to the development of sustainable food production methods and alternative food systems. The research foregrounds the impacts of COVID-19 on small-scale rural farmers and how this has accentuated existing inequalities within a largely dualistic agrarian structure and concentrated food system. These farmers have generally experienced precariousness in the light of diminishing and fragmented state support for smallholder producers. In most instances, the farmers are resource-poor and cannot afford the increasingly high costs of agro-inputs in industrial farming. The viability of sustainable and ecologically friendly methods of farming anchored in local food economies is constantly under threat from the pressures to adopt industrial methods in order to compete in a largely concentrated and corporate-driven food system. Households have to constantly navigate these burdens within their farming practices and, more broadly, in their relations with markets and policymakers.

Table 3: Different types of interviews and research activities conducted

Interviews, research participants	Ncerha	Ozwathini
Life history interviews	23	23
Quantitative survey	23	23
Key informant interviews	11	7
Participatory training workshops, field excursions and transactional walks	2	1

Figure 1: Map showing location of study sites within district municipalities



8. DEMOGRAPHIC FEATURES OF THE STUDY POPULATION

This research gathered data from 46 households – 23 in Ncerha and 23 in Ozwathini. The 23 Ncerha households consist of 57 adult women, 50 adult men and 48 children. The 23 Ozwathini households consist of 73 adult women, 54 adult men and 71 children. Within the 46 households, there are 130 women, 104 men and 119 children for a total of 353 people (see Table 4).

The average household size in Ozwathini is generally larger than in Ncerha (Table 5). Most households rely on multiple sources of income, with social grant earnings constituting a key source of livelihood. Larger households with more children tend to combine these social grant earnings and use this income for daily household social reproduction needs. Income sources in both Ncerha and Ozwathini averaged around five. Most households are pluri-active, combining both farm and non-farm income in complex ways. State social welfare transfers in the form of social grants are a key source of income and became critically important during the COVID-19 crisis, especially after widespread loss of employment and livelihoods, cushioning the poor from the pervasive livelihood crisis that followed the hard lockdown.

While social grants are a key source of livelihood for most poor households in communal areas, land remains a significant resource for the rural poor. The agricultural decline in the former homelands has been widely documented, yet most households still invest in household food production in their homestead gardens and keep small livestock.

In Ozwathini, households have up to four generations sharing the household while in Ncerha, there are up to three generations (see Table 6). Household members are involved in varying degrees in social reproduction and productive activities. In most of these multi-generational households, elderly women play an important role in both productive and reproductive activities. COVID-19 and the resultant

Table 4: Study population in Ozwathini and Ncerha (n=46 households)

Household members	Ozwathini (n=23)		Ncerha (n =23)		Total (n=46)	
	N	%	N	%	N	%
Women	73	37	57	37	130	37
Men	54	27	50	32	104	29
Children	71	36	48	31	119	34
Total	198	100	155	100	353	100

Table 5: Household size, number of generations and income sources in Ozwathini and Ncerha (n=46 households)

Household features	Ozwathini				Ncerha			
	Mean	Median	Mode	Range	Mean	Median	Mode	Range
Household size	8.61	7	6	(2-19) 17	6.65	7.00	8	(3-11) 8
No. of generations	2.78	3.00	3	(1-4) 3	2.61	3.00	3	(2-3) 1
No. of income sources	5.26	4.00	4	(2-13) 11	5.17	5.00	5	(1-10) 9

Table 6: Number of generations in Ozwathini and Ncerha (n=46 households)

Generations	Ozwathini	%	Ncerha	%	Total	%
One generation	2	9	0	0	2	4
Two generations	4	17	9	39	13	28
Three generations	14	61	14	61	28	61
Four generations	3	13	0	0	3	7
Total	23	100	23	100	46	100

closure of the economy saw an increased burden of care falling on women as children were not at school (Hall and Wegerif, 2021). Elderly women with access to old-age grants play a central role in household welfare by using their social grant earnings to meet various social reproduction needs.

During COVID-19, old-age grants became vital for purchasing food and supporting household members who had been retrenched. Some of the social grant earnings were redirected into homestead garden cultivation to purchase seeds and inputs. In most instances, elderly women who could not perform manual work hired casual labour from the community using their grants. Most of the cultivation in homestead gardens is typically done by women, and they often struggle to control family labour. Generational tensions are often manifest in the division of labour within households, with young people reluctant to be involved in farming since it is increasingly seen as a less remunerative activity and the preserve of the older generation.

Furthermore, indigenous farming practices are under threat from the increasing adoption of commercial farming methods. A few people, mostly the elderly, are interested in preserving indigenous seed which they consider to be tasty compared to modern seed varieties. Some of the interviewed farmers noted that young people find the indigenous seed varieties very hard and chewy. Although some farmers set aside a portion of land to exclusively cultivate indigenous maize, these traditional practices are under threat from pervasive green revolution technologies, changing consumption tastes and explicit preference for conventional maize in the markets.

9. LIVELIHOOD, SURVIVAL AND SOCIAL REPRODUCTION IN OZWATHINI AND NCERHA

Rural households have experienced an enduring crisis of social reproduction since well before the onset of the COVID-19 crisis. However, economic activity came to a drastic halt following the hard lockdown, and this intensified the already existing crisis of survival. The research in Ozwathini (see Table 7) and Ncerha (see Table 8) demonstrates that households in the two localities have diversified livelihood systems and combine both farm and non-farm income in complex ways. The COVID-19 crisis adversely affected these different livelihood sources. Farming households could not purchase inputs and access markets for their produce, some household members were retrenched and struggled to access unemployment insurance funds, and very few people accessed state relief support, for instance food parcels, or relief support for farmers and the SRD grant.

Many household members became reliant on existing social grant earnings, particularly the old-age grant and the child support grant. Despite the increase in these social grant amounts at the onset of the COVID-19 crisis, the loss of other sources of livelihood and the increase in food prices meant that social grants were spread thin. For some poor

households, the closure of schools meant that children could not access meals through the NSNP. This only increased the daily food requirements for households amidst rising food costs. The distribution of food parcels was also fragmented and piecemeal. A few families within the study sites managed to access food parcels. However, for those who managed to access food parcels, this was often a once-off or infrequent.

Since social grants have traditionally been a key source of income for the poor, augmenting their purchasing power, as an ameliorative measure during the pandemic they did not challenge inherent inequalities in the economy or the food system.

Research in Ozwathini and Ncerha revealed that despite a small proportion of adults having access to formal employment, many people could not access the SRD grant. While food production in homestead gardens provided a cushion for households given the rising costs of food, including fresh produce, the impacts of COVID-19 were particularly devastating to local farmers. All the households interviewed are engaged in small-scale farming and had been growing a wide range of crops before the onset of COVID-19. There is evidence of rural accumulation through small-scale farming among market-oriented smallholders. These smallholders straddled different markets – supplying vegetables to the local community, local schools, local street traders and bakkie traders, local municipal fresh produce markets and retail supermarkets.

While food production in homestead gardens provided a cushion for households … the impacts of COVID-19 were particularly devastating to local farmers.

Following the hard lockdown, these markets either collapsed or were completely reconfigured to the detriment of local farmers. Mrs Sinegugu Bhulose in Ozwathini experienced the following:

There were delays in selling amadumbe because people had no money to buy. The bakkie trader who buys from us came late to buy. Cabbages rotted during that period. Cabbages used to be bought in numbers. When COVID came, schools were closed and we could not sell. They rotted in the garden. We gave it to other people's cattle to eat. After that I stopped producing cabbages for the market. When cabbages rotted in the garden that did me bad because when you plant you use chemical fertiliser and you buy it. When cabbages rot and cannot be sold, and you had hope that you would get money, it becomes bad for you. You lose money you used to buy chemicals and seedlings.[1]

Table 7: Livelihood sources in Ozwathini (n= 23 households)

Livelihood source	No. of households (n= 23)	% of households sample	No. of people with livelihood source (n=127)	% of adult population
Permanent jobs	6	26.1	11	8.7
Temporary & casual work	4	17.4	6	4.7
Self-employment	3	13.0	3	2.4
Old-age grant	18	78.3	25	19.7
Child support grant	17	73.9	52	40.9
Foster care grant	0	0.0	0	0.0
Disability grant	0	0.0	0	0.0
COVID-19 SRD grant	0	0.0	0	0.0
Remittances	4	17.4	4	3.1

1 Interview with Sinegugu Bhulose, 10 November 2021.

Despite the enduring challenges experienced by smallholder farmers in Ncerha and Ozwathini, coupled with the intensified multiple impacts of COVID-19 on the local farming system, land-based livelihoods play a significant role in supporting local households. Against the background of a broader pattern of de-agrarianisation in the former homelands, the evidence from this research shows that patterns of agricultural decline have not been unilinear and totalising as is often assumed in conventional narratives that postulate a shift from agrarian livelihoods to non-farm livelihoods as society industrialises. Although experiencing immense pressures, agricultural livelihoods provided an important cushion and resource for local households during COVID-19, confirming the important role of land as a resource for rural people facing marginalisation and with few options in the wider economy.

Livestock production provided alternative income for some households who experienced a loss of income. In terms of the significance of livestock production amongst the 46 households, 34.8% only practised cropping and did not keep livestock, 15.2% combined cropping with cattle production, and 43.5% combined cropping with small livestock production (see Table 9).

Within farming, livestock production is combined with cropping and other sources of income to sustain the livelihoods of smallholder farmers. Although the surveyed households cultivated a variety of crops, they also combined this with livestock rearing to varying degrees. While livestock production is very important, very few households in both Ncerha and Ozwathini had livestock. Livestock ownership is differentiated. Only a handful of households own cattle while the remainder of livestock-owning

Table 8: Livelihood sources in Ncerha (n=23 households)

Income type	No. of households (n=23)	% of households sample	No. of people with livelihood source (107)	% of adult population
Permanent jobs	9	39.1	16	15.0
Temporary & casual work	5	21.7	7	6.5
Self-employment	4	17.4	4	3.7
Farming on household land	23	100	23	100
Old-age grant	17	73.9	21	19.6
Child support grant	17	73.9	40	37.4
Foster care grant	1	4.3	1	0.9
Disability grant	2	8.7	2	1.9
COVID-19 SRD grant	3	13.0	3	2.8
Remittances	2	8.7	2	1.9

Table 9: Cropping and livestock production (n= 46 households)

Farming activities	N	%
Cropping only	16	34.8
Cropping, cattle and small livestock	3	6.5
Cropping and cattle	7	15.2
Cropping and small livestock	20	43.5
Total	46	100%

households keeps small livestock – sheep, goats and chickens.

The Dladla household illustrates how small livestock plays an important role in sustaining rural households, especially during a livelihood crisis when other sources of income become overstretched. The family partly depended on fresh produce from the garden for their household food requirements. An old-age grant and a foster care grant were a vital source of cash for the Dladla household. They supplemented this income with reliable remittances from their two adult children who had been employed in East London. However, due to the retrenchment of both their children, the household lost these remittances. Although they had plans to expand their homestead garden, this soon came to a halt since they could not afford to hire casual labour or a tractor to turn the soil. Rising food inflation meant that the income from the two social grants was overstretched. Their children in East London also increasingly depended on social for grants financial support. According to Mrs Dladla:

> *My children are now adults and they did not come back home during the lockdown. They stay in our house in the township. They are not working (following retrenchment). When they lack something they call me. I then sell maybe two piglets and give them money.*[2]

Although the retrenched family members had applied for UIF payments, these were taking a long time to be processed, and the family was left with no option but to sell their small livestock. Before the lockdown, Mrs Dladla had 11 pigs and was only left with one pig after the hard lockdown.[3]

Most farmers in Ncerha and Ozwathini practise mixed cropping in their homestead gardens. There is a tendency to cultivate a wide range of crops in the small parcels of land within the vicinity of the homestead. This is evident in the diversity of crops cultivated by these household food producers, as shown in Table 10 below.

In Ncerha, the average number of crops grown by households cultivating their homestead gardens is 5.13. The most widely grown crops are spinach, beetroot and cabbage. These are followed by potatoes, which are grown by half of the households. The households in Ozwathini also cultivate a wide range of crops, although the cropping system is less diverse compared to Ncerha.

Most farmers in Ncerha and Ozwathini practise mixed cropping in their homestead gardens… In Ozwathini, organised marketing under the auspices of local cooperatives supplying local schools and other markets explains why some farmers dedicated more land and resources to specific crops

In Ozwathini, the average number of crops grown by households in their homestead gardens is 3.74. The most widely grown crops are maize and amadumbe. Beans are also a favourite as almost a third of households produce them. The least produced crop in each of the villages is tomatoes. This is mainly to do with the crop's susceptibility to diseases, and farmers' lack of access to knowledge and means to control the spread. It is also cheaper to buy tomatoes from retail shops than to produce them.

Other researchers have reported that with the decline in cultivation of large fields, smallholder farmers in the Eastern Cape have shifted their resources to homestead gardens to produce a wide range of crops (Andrew and Fox, 2004; Mtero, 2015). In

2 Interview with Mrs Noluntu Dladla, 1 July 2021.

3 Interview with Mrs Noluntu Dladla, 1 July 2021.

Table 10: Crop diversity in Ozwathini and Ncerha (n=46 households)

Type of crop	Ozwathini (n=23)	%	Ncerha (n=23)	%	Total (n=46)	%
Amadumbe	23	100	0	0	23	50
Beans	15	65	7	30	22	48
Beetroot	1	4	18	78	19	41
Butternut	0	0	5	22	5	22
Broccoli	0	0	1	4	1	4
Cabbages	9	39	17	74	26	57
Carrots	1	4	9	39	10	22
Green pepper	0	0	5	22	5	11
Maize	17	74	8	35	25	54
Onions	2	9	6	26	8	17
Potatoes	7	30	12	52	19	41
Pumpkin	2	9	2	9	4	9
Tomatoes	1	4	1	4	2	4
Turnip	0	0	5	22	5	11
Sweet potatoes	0	0	1	22	1	2
Spinach	9	39	20	87	29	63
Watermelons	0	0	1	4	1	2

Ozwathini, organised marketing under the auspices of local cooperatives supplying local schools and other markets explains why some farmers dedicated more land and resources to specific crops instead of spreading themselves thin by producing small amounts of different crops. Some farmers reported that the cooperatives and government officials often encouraged them to produce specific crops depending on the market requirements. Small-scale farmers supplying formal markets often gravitate towards specialising in specific crops to increase output and ensure consistency of supply. In Ncerha, the absence of structured formal marketing arrangements meant that farmers were relatively less susceptible to the pressure to focus on producing specific crops. Consequently, the farmers in Ncerha could still produce a wide range of crops through intensive intercropping – a practice that, inter alia, reduces the risk of crop failure in smallholder farming systems and enhances household food security. However, intensive intercropping is often not aligned with the requirements of formal markets, which favour mono-cropping in order to increase the output of the selected crops and ensure consistency of supply to the markets.

10. SUPPORT FOR AGROECOLOGICAL AND SUSTAINABLE FARMING PRACTICES

Scaling up to systematically influence public policies in favour of agroecology and scaling out horizontally to massify agroecology both require effective organisation. This section foregrounds insights from key informants – policymakers and local NGOs operating in Ncerha and Ozwathini – to analyse the broader challenges experienced by local farmers concerning agroecological transition and the building of local food economies. However, this section does not constitute a detailed mapping out of external agencies' initiatives that support agroecology in the Eastern Cape and KwaZulu-Natal. Instead, the focus is limited in scope and only highlights efforts to promote sustainable farming within Ncerha and Ozwathini. Although the focus of this paper is confined to Ncerha and Ozwathini, the impacts of the wider food system on local farmers and efforts to promote sustainable farming provide important insights into possibilities for agroecological transition and building local food systems in similar contexts. Besides external support for agroecology, the local farmers' lived experiences provide an insider's perspective on how powerful groups and interests influence local farming practices. As already noted, the wider policy environment shaping prospects for agroecology has been characterised by ambivalence and ambiguity (Greenberg and Drimie, 2021).

The contradictions in public policies are largely an outcome of competing interests amongst different societal role-players and the government's attempts to mediate these divergent interests, which often leads to a lack of policy coherence, albeit with the continued dominance of corporate interests in the wider food system. Greenberg and Drimie (2021: 33) make important observations about the policy incoherence affecting agroecology:

> *Depending on the emphasis placed on particular national goals, different policies can be situated within the policy hierarchy. For instance, an agricultural policy that focuses on creating one million jobs will take precedence over a policy that places environmental sustainability before employment creation.*

The lack of a coherent policy vision on agroecology can only be effectively addressed through a society-wide approach involving multiple actors at multiple levels. As such, coalitional approaches anchored by "popular consciousness, effective social organisation, strategic action and initiative" are central to "political scaling up" to ensure public policies are supportive of agroecology (Rosseti and Altieri, 2017).

Although progressive NGO efforts to promote agroecology in Ncerha and Ozwathini already exist, political scaling up through horizontal aggregation remains nascent and elusive.

For external agencies and NGOs promoting agroecology in local communities, the starting point for a coalitional approach is "horizontal aggregation" – when various agencies and peer groups promoting agroecology merge their processes and bring pressure to bear on political actors to adopt transformative policies (Rosseti and Altieri, 2017). Although progressive NGO efforts to promote agroecology in Ncerha and Ozwathini already exist, political scaling up through horizontal aggregation remains nascent and elusive. These local initiatives possess significant transformative potential not only to create sustainable agroecosystems but also to reconfigure local food systems in favour of smallholder producers as a stepping stone to wider food system changes. Local case studies on such local alternatives in Ncerha and Ozwathini are documented in text Boxes 1 and 2.

Box 1: Participatory training and knowledge sharing in Ncerha

The Movement in Africa, an NGO focusing on promoting permaculture and agroecology, had introduced a six-month training course in collaboration with a local NGO in Ncerha, Isithembiso. The model focuses on ecologically sustainable principles of farming, from garden design, rainwater harvesting and preservation methods like mulching, to the use and application of homemade biofertilisers, biopesticides and insect repellents, and intercropping. A key principle is the establishment of sustainable agroecology farmer support hubs that produce organic seeds and seedlings, organic fertilisers and repellents within local communities, and provide support in marketing produce. At the time of research, The Movement in Africa was working with Isithembiso and 20 local farmers in Ncerha using participatory training methodologies to share knowledge of sustainable farming practices. Besides Ncerha, The Movement in Africa also operates in Mthatha, Elliot, and Mt Frere. The idea is to establish agroecological hubs and ensure effective social organisation through participatory, farmer-to-farmer knowledge-sharing activities in these locations.

Training workshops in Ncerha focused on garden design and rainwater harvesting methods. The practical lessons also focused on composting, mulching and building swales on homestead gardens. Farmers were also taught about different organic insect repellents to minimise the use of chemical pesticides. These homemade insect repellents included the use of ash brew and the marigold flower. Farmers also learned about the importance of intercropping and companion planting in their homestead gardens.

In line with the minimalist definition of agroecology (Greenberg and Drimie, 2021), Movement in Africa supports small-scale farmers to gradually shift from using agrochemicals. In terms of scaling out and scaling up, they have developed a hubs-based methodology that envisages the establishment of self-sufficient, community-owned hubs where farmers can access biofertilisers, biopesticides and organically produced seeds. Such hubs, if successful, will eventually incorporate marketing support systems, linking local farmers with consumers.[4]

Policy contradictions affecting agroecology also shape smallholder support programmes in profound ways. For instance, in Ozwathini, a key informant from the NGO sector noted that the Department of Agriculture Rural Development and Land Reform (DARDLR) had been supportive of their work with local farmers under the auspices of the National Land Care Programme. The NGO also supported local farmers through their conservation agriculture initiative, which had buy-in and support from the DALRRD. Yet, the government extension services also played a huge role in promoting industrial methods of farming among the local farmers. Seed companies and agro-input suppliers were reliant on government officials, specifically extension officers, to facilitate the adoption of green revolution technologies by local farmers.

At the time of the research, some seed companies were working with local farmers in Ozwathini and neighbouring villages to introduce modern maize and potato crop varieties. This entailed the establishment of demonstration plots in local farmers' homestead gardens. Agribusinesses often assist smallholder farmers with soil testing and preparation

4 Interviews with The Movement in Africa and Isithembiso Multipurpose Organisation, 14 October 2021. The researchers also attended a training workshop by the two organisations on the same day including practical demonstrations on garden design.

Policy contradictions affecting agroecology also shape smallholder support programmes in profound ways.

and provide the seeds, fertilisers and herbicides. In some instances, the same farmers were simultaneously practising sustainable farming through support from local NGOs and the DALRRD.

In an environment where resources are minuscule and there is a pervasive lack of support, farmers often straddle both agroecological and industrial farming methods, depending on which resources and forms of support are available at any particular moment. These contradictions reflect the contestations and competing interests within the food system and how these realities are manifested on the ground. Although industrial farming continues to benefit from the vast support infrastructure and networks within the wider food system, local initiatives to challenge relentless corporate dominance provide key lessons on building alternatives.

Just like in Ncerha, there are progressive local efforts in Ozwathini and neighbouring villages to build alternative food systems, albeit under very constrained conditions, and even more so in the post-COVID period. The case study in text Box 2 illustrates the potential of harnessing the power of local markets to support local food economies.

Figure 2: Farmers making a swale during a participatory training workshop held by The Movement in Africa and Isithembiso in Ncerha, Eastern Cape. Photo by Farai Mtero.

Box 2: Nurturing local markets in Ozwathini

A key challenge facing local food systems in rural areas is supermarket penetration, where large retail supermarkets have gradually replaced the traditional trading stores that used to buy local agricultural surpluses. These supermarkets source their food from distant commodity markets and, although, they provide cheap food, the bypassing of local producers is a key driver of deagrarianisation. Mahlathini Development Foundation's local marketing initiative seeks to tap into already existing local markets, namely pension payout points, clinics, schools and taxi ranks to absorb the marketed output from farmers involved in the Climate Resilience Agriculture (CRA) initiative. The long-term success of local marketing is predicated on buy-in and collaboration amongst multiple actors within the local food system. Government departments and the Ozwathini Farmers' Association representing 212 smallholder producers from different villages have been supportive of the initiative.

Despite initial challenges in setting up the programme in Ozwathini, the first farmers' market in June 2021 saw the participation of 16 farmers who collectively earned R11 528.[5] There is huge potential to scale up in numbers and volume of fresh produce. However, large retail supermarkets are highly centralised in terms of their decision-making and procurement processes. There had been no headway in initial negotiations with one of the large retail supermarkets, Boxer, to accommodate local smallholder producers since all decisions need approval by the head office. Other progressive local initiatives included the institutional support by Ilembe municipality, linking smallholder producers to the local school feeding programme under the auspices of the National School Nutrition Programme (NSNP). Unfortunately, this was discontinued following the end of the contract and changes in procurement processes before the onset of the hard lockdown in March 2020, leaving the smallholder farmers' cooperatives with no markets and huge losses. Despite the success of the NSNP in supporting local smallholder producers, interviews with local farmers in Ozwathini reveal differential impacts and attempts by a few elites to capture benefits through leasing local land. Other farmers outside the registered cooperatives also felt excluded. Another progressive local initiative that is yet to materialise is the Phakama Market, which involves a collaboration between the uMgungundlovu municipality and the Durban University of Technology (DUT) to establish a market where local farmers can sell their produce at stalls within the allocated market.[6]

Most of the policy contradictions affecting agroecology involve policies that, although broadly relevant to agroecology, are not necessarily fully-fledged ones explicitly formulated to support farmers in agroecology. Thus, in addition to the policy incoherencies noted above, the larger issue remains the absence of specific, stand-alone policies that support agroecology. Such policies are caught up in the convoluted process of policymaking and are yet to be finalised. As it stands, there is no appropriate policy framework to guide policymakers and planners on the implementation and support of agroecology

5 Mahlathini Development Foundation. 2021. WWF-Milestone 4: Third progress report and Provision of learning and implementation support for CRA practices using a Participatory Innovation Development (PID) approach, September 2021.

6 Interview with Mahlathini Development Foundation, 15 November 2021. The researchers also visited some farmers with Mahlathini Development Foundation on 16 November 2021.

in South Africa (Greenberg and Drimie, 2021). Also related to the absence of appropriate policies is the lack of dedicated funding to support agroecology. While smallholder farmers in South Africa have historically and still use indigenous and sustainable farming practices, the lack of policy and programmatic support for agroecology at multiple levels – in agricultural training, research and development and extension services – partly explains the lack of appropriate inputs, technology and implements for agroecology.

Most of the policy contradictions affecting agroecology involve policies that, although broadly relevant to agroecology, are not necessarily fully-fledged ones explicitly formulated to support farmers in agroecology.

Government support programmes that provide direct support to individual farmers do not have options to access appropriate inputs for agroecology, for instance, indigenous seeds, biofertilisers and biopesticides. Instead, farmers can only access conventional agro-inputs from mainstream suppliers. State-supported agricultural production schemes in local communities, such as large-scale maize production, are supported through the involvement of contractors who use heavy machinery, modern seeds and chemicals. This requires communal area farmers to consolidate their small parcels of land to enable cultivation with this kind of heavy machinery. Support packages in these large-scale schemes also come with subsidies for industrial agro-inputs, mainly GMO seeds, synthetic fertilisers and herbicides. Remarks on the marginalisation of agroecology by a member of the Eastern Cape Agroecology Farmers Association are particularly illustrative:

They are discriminating because the programmes they have in place are only suitable for conventional farmers. The criterion they have for farmers to access the programme is about hectares, and most organic farmers are small-scale. For you to benefit from the programme, they want you to have more hectares, so they say farmers should combine their land. The contractors they hire do not want to work with small farmers because they have huge tractors and machinery, and these are not suitable for small gardens. So, even for seeds, they just work with suppliers who provide GMO seeds instead of open-pollination varieties. Organic farmers cannot keep GMO seeds for replanting. From the outset, the government programmes are not supportive of agroecological farming. You can't save seeds from GMOs; you need to save from pollination varieties (OPV).[7]

The pressure to adopt industrial methods of farming does not only emanate from input suppliers within the food system. Retail supermarkets and buyers within the formal value chains hold significant buyer power to determine the type of cultivars they need on their shelves. Some extension officers argue that organically grown crops take too long to grow and tend to be irregular in shape and size so they are aesthetically unappealing, and thus constrain farmers in terms of supplying produce to the retailers at a rapid and consistent pace. Organic pesticides, if not used appropriately, can be ineffective, and insect infestations and diseases reduce the quality and appeal of the crops. Farmers are pressured to use synthetic fertilisers which ensure the faster growth of crops and make it possible for farmers to supply retailers and formal makerts more rapidly and consistently.

An interview with an official in the Eastern Cape aptly illustrates some of the pressures confronting smallholder farmers when navigating between practising industrial farming and agroecology:

7 Interview with Nolwazi Jabavu, 21 October 2021.

I always say to [the farmers] it's good, especially for our health. But with the economic problems we have today, we need people to make money. We need people to use that land as a business. Do you have the time to wait for your crops to grow before you can service the market? The demand for food is growing. The demand for people to produce is growing. If we have these people who need more time to produce, we need them to produce faster. I am not saying they should use too many chemicals. But what I am saying is organic farming for me takes longer. Do we have the time to produce something that's going to take a long time to grow? It's good for those backyard gardens, especially for the elderly, and people who want healthy food. But for commercial farming, I doubt if it's feasible.[8]

As a result of these entrenched mainstream policy biases, most agricultural experts and extension officers actively promote modern crop varieties. Ultimately, the overriding goal of this policy vision is to promote market access, profitability and commercialisation of smallholder producers.

Agroecological farming and other sustainable practices largely lack sufficient institutional and policy support at both local and national levels. Research insights from Ozwathini and Ncerha show that there is sustained institutional and policy support for conventional agriculture, while support for alternative practices – like agroecology, organic farming and conservation agriculture – remain patchy, insufficient and uncoordinated. Agricultural development programmes and extension services are designed to support the replication of large-scale industrial methods of farming within small-scale farming systems. According to one key informant in Ozwathini:

Farmers are used to conventional farming. They have been exposed to chemical farming. The extension officers are always updating farmers about the best chemicals to use. The farmers even do potato trials. Since they use synthetic fertilisers, it's difficult to shift to organic farming. We encourage organic and sustainable methods of farming. This includes a gradual reduction in the use of fertilisers.[9]

Interviews with farmers in Ozwathini revealed, for example, that there is generally a buyer preference for hybrid maize varieties over indigenous maize in formal markets. The hybrid maize has large cobs with large grains that are uniformly developed. In contrast, indigenous maize varieties have small cobs with small grains which are not uniformly developed. Most farmers in Ozwathini argue, however, that indigenous maize tastes better than the hybrid maize varieties, although they acknowledge that traditional maize tends to be harder than modern maize and cooks for longer. To navigate these realities, some farmers cultivate separate maize crop portions in their gardens – one for hybrid maize for the market, and another for indigenous local maize for household consumption and feeding livestock.

Agricultural development programmes and extension services are designed to support the replication of large-scale industrial methods of farming within small-scale farming systems.

In Ncerha, there is also evidence of a close relationship between private agribusiness corporations and agricultural development officers. Officers act as a conduit for conveying new knowledge and products in industrial farming to smallholder farmers. Remarks by one government official illustrate how the close relationship between government officials and agribusiness facilitates the adoption of

8 Interview with Amahle Ndungane, 2 July 2021.

9 Interview with Nomusa Khumalo, 15 November 2021.

industrial methods of farming by local farmers. The local official noted that:

> *We work with outside stakeholders who supply agro-inputs, like seeds, chemicals and fertilisers. For instance, seed companies or their agents give us seed for free for trials to see how it's going to come out, then our farmers will buy from them. They follow up on their products, they train us as extension officers and they also train the farmers.*[10]

According to Greenberg (2011), government departments are often captured by large private corporations and this impedes the adoption and use of sustainable organic inputs, such as indigenous local seed varieties, biofertilisers and organic pesticides.

More public resources are allocated for large-scale agricultural development schemes while support programmes for smallholder farmers are underfunded. The extensive support for large-scale maize schemes by the government in Ncerha exists alongside the precarious smallholder farming in homestead gardens. Some farmers who had been growing vegetable crops in small homestead gardens were also mobilising resources to participate in government-funded large-scale maize schemes. Although there is an own contribution by participating farmers, the government also provides extensive support through subsidies for inputs and the hiring of contractors who provide tractor services and combine harvesters. Such agricultural development schemes are designed to support industrial farming types of agriculture and technologies. Thus, while local NGOs mobilise resources to promote sustainable farming, these initiatives exist in tension with initiatives that promote conventional methods of farming. Local non-profit organisations like Isithembiso and The Movement in Africa have to contend with the dominance of conventional farming practices and their sustained support by the state in Ncerha.

While the increase in corporate control and dominance across different nodes of the food system is a reality, sustainable farming practices, including ecologically friendly indigenous farming methods, continue to be employed in rural areas. Despite the resilience of these farming practices, the glaring lack of investment in agroecology progressively undermines the potential of sustainable alternatives to emerge and flourish. Rural farmers rely on elementary technologies to store seeds and make biofertilisers and insect repellents. Without the requisite public investment in research and development, farmers gravitate towards industrial forms of production and inputs that, although expensive, are supported by a panoply of policies, vast infrastructure and knowledge systems, and substantial public spending.

Attempts by some individual farmers to produce vegetable seeds and seedlings have often been unsuccessful, as they lack access to appropriate technology and have insufficient knowledge on how to grow their own seedlings or harvest and reuse vegetable seeds. Some farmers argue that the small size of their homestead gardens means that it is not feasible for them to set aside part of their gardens to grow their own seedlings. Very few smallholder farmers have been able to preserve maize seeds from previous harvests for reuse.

Despite the resilience of these farming practices, the glaring lack of investment in agroecology progressively undermines the potential of sustainable alternatives to the corporate food system to emerge and flourish.

10 Interview with Amahle Ndungane, 2 July 2021.

Figure 3: A farmer showing stored indigenous maize seeds in Ozwathini, KwaZulu-Natal. Photo by Nkanyiso Gumede.

11. SMALLHOLDER FARMING SYSTEMS, AGROECOLOGY AND SUSTAINABLE PRACTICES

Small-scale farmers experience pressure to adopt agro-industrial farming from both the input side and in marketing their produce. Agricultural support systems promote industrial farming while the market tends to prefer hybrid crop varieties. The case of maize in fresh produce markets is illustrative. Supermarket chains tend to be very specific about the crop varieties they require. The hybrid modern seed varieties require specific types of fertiliser and chemicals to obtain high yields and quality crops. Some farmers who have cultivated their fields using conventional methods experience challenges when trying to reintroduce ordinary seed varieties or crops. Maize tends to become harder when it is grown where industrial methods have been applied. Seed companies have a vast network of support systems and often work with farmers through extension officers to establish demonstration fields. This facilitates the wide adoption of industrial methods amongst smallholders.

Given the lack of institutional, policy and programmatic support for agroecology and sustainable farming, resource-poor farmers often struggle to fully practise sustainable agriculture within local farming systems. Although there are some local NGOs that assist farmers through the provision of information and training on agroecology and sustainable agriculture, the broader environment is not conducive to the transition from conventional farming practices.

Most farmers in Ozwathini and Ncerha relied on chemical methods of pest control (see Table 11). This is mainly because chemical pesticides are

Table 11: Pest control methods in Ozwathini and Ncerha (n= 46 households)

Pest control methods	Ozwathini		Ncerha		Total	
	N	%	n	%	N	%
Chemical pesticides	22	95.7	18	78.3	40	87.0
Homemade pesticides	1	4.3	3	13.0	4	8.7
Chemical & homemade pesticides	0	0	2	8.7	2	4.3
Total	23	100	23	100	46	100

easily accessible. As opposed to organic farming, industrial farming is supported by a vast input distribution network based on strong partnerships with the government and policymakers. During COVID-19, input voucher schemes leveraged these networks and partnerships to get inputs to farmers, including smallholder producers. No farmers managed to access organic pesticides or organic fertilisers through government relief support schemes. Input vouchers could only be redeemed at selected input suppliers who only stock conventional inputs. During the research, we spoke to some of these input suppliers who noted that organic manure and fertilisers were few and far between and so they only supplied conventional inputs to farmers during COVID-19.

Very few farmers practised integrated pest management methods. While some used readily available homemade pesticides, this was not applied simultaneously with intercropping practices meant to control pests, like companion planting. Farmers complained that efforts to use organic or homemade remedies resulted in pest outbreaks and poor quality of produce.

> *We have also not used organic methods to control pests or control weeds. Some of the organic methods to control pests are not convenient. Most of the time you mix the ingredients to make the organic pesticide once you have identified the pests. Most of our cabbages died because we could not buy pesticides during the lockdown period. So, this greatly affected us.*[11]

Often, the challenge is that homemade ingredients are not readily available, and it is only when there is an outbreak that farmers mix the ingredients.

> *I spray my vegetables using chemicals to control pests. There are times when I use homemade pesticides. Homemade pesticides are effective for controlling pests, but when there are outbreaks, they may not be useful. Chemicals are more effective when it comes to containing disease and pest outbreaks. We use vinegar and dishwashing liquid to kill pests, but these do not kill all the pests. Before we relied on chemical pesticides. Organic pesticides are effective on some vegetables, but in some cases they do not work effectively. So, it depends on which vegetables.*[12]

In contrast, chemical pesticides are readily accessible with many options, especially if the farmers have the money to purchase them. Chemical pesticides can also be purchased beforehand in preparation for the planting season. Besides homemade pesticides, some farmers purchased organic pesticides from manufacturers. However, these suppliers are very few and do not have extensive distribution networks like agribusinesses in the mainstream. A few well-off farmers can afford manufactured organic

11 Interview with Nombasa Dlamini, 29 June 2021.

12 Interview with Thabo Ndlovu, 1 July 2021.

pesticides, and some bought them online and had them shipped from Johannesburg since there are no local distributors. This makes the purchase of organic inputs arduous for smallholder farmers with no financial resources or access to the internet.

For instance, although most farmers in Ncerha used animal manure (see Table 12) to enhance soil fertility, most of these farmers still heavily relied on chemical pesticides (see Table 11). Although its use is labour-intensive, animal manure benefits farmers since they can obtain it from their livestock, neighbours' kraals or communal rangelands. In Ncerha, farmers also heavily relied on manual weeding, while in Ozwathini, herbicides were widely used (see Table 13). Sustained production and organised marketing support in the period preceding the COVID-19 crisis through farmers' cooperatives (including vibrant informal markets involving bakkie traders) provided the impetus for farmers in Ozwathini to cultivate large portions of their homestead gardens. However, due to difficulties in mobilising labour, the only way for most farmers in Ozwathini to weed the relatively large parts of their homestead gardens was through herbicides. Furthermore, despite farmers in Ozwathini accessing herbicides, family labour remains significant for smallholder farmers since most farmers generally cannot afford hired labour. Thus, besides weeding, many manual tasks require family labour, for instance, ploughing and harvesting.

In Ncerha, there was less direct state support or organised marketing supporting smallholder farmers. The lack of agricultural support limited the expansion of homestead gardens. Still, mobilising labour was also a challenge for farmers in Ncerha. Yet through the cultivation of diverse crops, farmers in Ncerha (see Table 10) could productively cultivate smaller portions of their gardens using manual methods of weeding instead of herbicides (see Table 13). For those with limited access to both hired and family labour, self-organised cooperatives where households retain a separate plot of land but pool labour for manual tasks like ploughing, weeding, and harvesting were important. For most older people, manual work is physically demanding. Failure to mobilise family labour means the only alternative is hiring labour. Thus, some elderly farmers set aside social grant earnings to hire unemployed young people to weed their gardens, while others rely on herbicides.

Table 12: Managing soil fertility in Ozwathini and Ncerha (n=46 households)

Managing soil fertility	Ozwathini		Ncerha		Total	
	N	%	N	%	N	%
Animal manure	3	13.0	19	82.6	22	47.8
Animal manure & compost	1	4.3	1	4.3	2	4.3
Chemical fertilisers & animal manure	12	52.2	3	13.0	15	32.6
Chemical fertilisers	7	30.4	0	0	7	15.2
Total	23	100	23	199	46	100

Table 13: Weed control methods in Ozwathini and Ncerha (n=46 households)

Weed control methods	Ozwathini		Ncerha		Total	
	N	%	n	%	N	%
Manual weeding	8	34.8	23	100	31	67.4
Herbicides	15	65.2	0	0	15	32.6
Total	23	100	23	100	46	100

Figure 4: A farmer applying kraal manure in Ncerha, Eastern Cape. Photo by Farai Mtero.

Figure 5: A woman clearing a portion of the homestead garden to plant amadumbe in Ozwathini, KwaZulu-Natal. Photo by Nkanyiso Gumede.

Thus, smallholder farmers in communal areas continue to experience significant challenges that inhibit the transition to sustainable farming practices in a holistic and integrated manner. Patterns in the use of seeds, pest and weed control and soil fertility management within smallholder farming systems in Ncerha and Ozwathini show that most households still grapple with deepening agroecological practices. This means there has not been a significant shift in reducing reliance on conventional farming methods and replacing them with agroecological farming practices. In both Ncerha and Ozwathini, non-profit organisations struggled to foster change in local farming practices due to the predominance of conventional farming and the vast network of key role players in the corporate food system who promote the percolation of industrial farming practices in the smallholder farming system. While non-profit organisations try to promote sustainable practices, they often have to contend with the sustained infusion of conventional inputs into local communities through free initial inputs and support for demonstration fields. As a result, some farmers gradually return to mainstream farming methods after obtaining accessible inputs from seed companies and using these inputs on a trial basis in demonstration plots.

To summarise, local farmers in Ncerha and Ozwathini are still heavily constrained, and most of the local farming practices are adaptive as opposed to the intentional adoption of agroecological practices. Apart from these strategies, there is no evidence of reorganisation of food production through the intentional application of multiple agroecological practices, such as intercropping, use of compost manure and mixed farming. Although in both localities there are non-profit organisations trying to promote agroecological farming, uptake by local farmers has been slow, and often these initiatives have to contend with the institutional infrastructure and networks that promote conventional farming. Thus, no significant relationships to connect farmers beyond the farm have taken root.

12. COVID-19 IMPACTS ON THE VIABILITY OF SMALLHOLDER FARMERS

It is noteworthy that significant unequal and exploitative relationships constraining smallholder farmers preceded the COVID-19 crisis. In fact, the widespread impacts of the pandemic – which included the closure of markets, rising input costs, and lack of transport to markets – only deepened already existing challenges (see Table 14). A key issue has been the lack of suitable support for individual farmers, and this was exacerbated by the adverse impacts of COVID-19. Rural farmers struggle to access support and are often compelled by the authorities to form cooperatives as a precondition to access state support. According to one farmer in Ozwathini:

> *We were forced to work as a cooperative because we can easily access support as a group. So, we positioned ourselves for the purposes of accessing support. We opted for a small co-operative but cultivate land individually, and we contribute money to create a collective reserve fund to support our individual farming activities. We have a monthly contribution of R200 per person and can borrow money from the reserve fund. We plan and organise production as a collective, but each person has a separate parcel of land that they cultivate. Management of production and decisions about which crops to grow in which season are collective decisions.*[13]

13 Interview with Vuyisile Mthembu, 30 June 2021.

Even in instances where these cooperatives have been successful in terms of accessing inputs and marketing produce, there are also inequalities that characterise these farmer groups. In Ozwathini, some farmers reported being marginalised from the cooperatives even before these cooperatives lost access to the NSNP and subsequently during COVID-19. Amongst the marginalised farmers, the argument is that local cooperatives had been captured by local elites who tended to prioritise their own produce when selling. Monthly contributions by the cooperative members were not properly accounted for. Some marginalised farmers reported that before the COVID-19 crisis, they had been approached by government officials who wanted to be allocated land by the farmers so that they could also produce their own crops and benefit from the programme. This was essentially an attempt by these state officials to clandestinely benefit from existing supply networks.

Some local farmers in Ncerha were gravitating towards cooperatives as a means to pool labour, jointly acquire inputs and collectively seek support from the state. The cooperative members still maintained their separate plots of land and aimed to sell their agricultural produce separately. However, it appears that the disaffection by the marginalised cooperative members was more pronounced in Ozwathini since a lucrative market and benefits existed during the time of the NSNP. In Ncerha, cooperatives tended to form and disintegrate before they could access state resources and support. In most instances, disagreements are around the rotational arrangements on pooling labour where some cooperative members disengage once their gardens have been cultivated.

The local rural economy was not spared from the adverse impacts of COVID-19. Rural households were variously affected by retrenchments, lay-offs and short-term work arrangements. The impact of this was to reduce the flow of resources, placing a huge burden on social grant earnings. The closure of schools also meant that the farmers could not sell their produce to teachers who traditionally constitute an important local market. While policies in support of localised food economies that link local farmers to local consumers have been poorly supported, the NSNP represented an important turning point in Ozwathini where local cooperatives supplied fresh produce to schools. The discontinuation of the programme linking local farmers to the NSNP in Ozwathini coincided with the onset of the COVID-19 crisis, with far-reaching impacts on farmers participating in the programme. The lockdown further exacerbated challenges emanating from constrained access to markets by smallholder farmers in the area since alternative markets outside the NSNP were severely affected. In Ncerha, there has not been a comprehensive state-initiated programme to link farmer cooperatives or individual farmers with the supply networks for the NSNP. However, a few fairly prosperous farmers had been supplying vegetables to specific local schools without a comprehensive programme underwritten by government authorities.

Still, the loss of access to the NSNP by these few local farmers undermined their prospects for accumulation. Besides the loss of nascent markets within the local food economies, the wider impacts of COVID-19 reduced access to distant markets by the local farmers. Travel restrictions meant that bakkie traders and street traders who used to traverse local communities in search of fresh produce could no longer move around freely. This affected those farmers without their own transport to ferry goods to the market or the means to hire transport. Also related to these market losses was the failure of most farmers to secure the required travel permits during the hard lockdown.

Besides the loss of nascent markets within the local food economies, the wider impacts of COVID-19 reduced access to distant markets by the local farmers.

There were different ways in which farmers could access permits, and these were not properly communicated. Some could obtain licences from retail supermarkets or other buyers authorising them to transport their produce to those markets. In some instances, farmers had to approach their agricultural extension officers for licences. Overall, farmers expressed a lack of knowledge of how to access the necessary permits. During the hard lockdown, transport costs increased, causing some farmers to ask agricultural extension officers to help them ferry their produce to markets or transport inputs from suppliers in neighbouring towns or cities. The rise in transport costs had a disruptive effect on the ability of farmers to both acquire inputs and sell their produce.

The overall impact on local farmers has been debilitating. In Ozwathini, the loss of the NSNP and limited access to alternative markets saw some households shifting their efforts from vegetable production to the cultivation of amadumbe, which are less perishable. However, this did very little to assuage the impacts of the crisis since amadumbe are harvested only once per year. The focus on amadumbe could not make up for the loss of the vegetable market since fresh vegetables had been the cash cow for many households because they can be grown a couple of times per year. These unfavourable conditions converged with the general climate of fear and uncertainty about the COVID-19 virus to negatively affect production. Some farmers could not hire labour since people were required to distance socially and not visit each other. Cultivation of homestead gardens is labour-intensive, and some farmers rely on casual manual labour to assist with the physically demanding farm work:

> *We hire people and make them food. We hire people; you can't work on this portion of land alone. You have other chores, you need to cook and do laundry, so you definitely need help. Since my elderly mother gets a pension we use part of that money to farm. We use my mother's old-age grant to hire people to help us in the garden. At times, we hire three or four people when we are overwhelmed with weeding. When you hire people you need to cook for them; you need to pay them. You can't have people working on an empty stomach. That's how you end up incurring costs.*[14]

Besides the restrictions on mobility within the villages, the affordability of hired labour became a significant constraint during lockdown where household resources became stretched. In Ncerha some farmers who lost markets used their vegetable crops to feed their livestock and the rest as compost for nourishing the soil. Others had to fall back on livestock to cushion them from the adverse impacts of losing income from their cropping enterprises. The

Table 14: Challenges affecting household food producers during COVID-19 (n= 46 households)

Challenges	N	%
Market access	36	78.3
Input costs	26	56.5
Transport costs	16	34.8
Permit access & travel restrictions	16	34.8
Decline in production	17	37.0
Loss of income	10	21.7

14 Yibanathi Dube, 12 November 2021.

role of livestock in the local farming systems is very important since these different farming activities often operate in a complementary manner.

In Ozwathini, the farmers had a lucrative market through the NSNP. This provided a ready market for local fresh produce. Although this was discontinued before COVID-19, the adverse impacts of the lockdown and market closures meant that there were very few alternatives for smallholders exiting the NSNP to fall back on. This deepened the crisis faced by these farmers in that most of the produce had to be thrown away, and those producing amadumbe had to replant.

In both localities, market-oriented accumulators were adversely affected by the loss of access to the fresh produce market during the hard lockdown. Although farmers could obtain permits to operate, most smallholders found the process cumbersome and unclear. Bakkie traders and street traders also found it difficult to commute to rural localities to purchase produce. During this time, transport costs increased significantly, and even farmers who wanted to hire open trucks found the cost exorbitant. For instance, some farmers in Ncerha noted that it cost R1 000 to hire a truck to transport produce to market, and this greatly affected their profits. In addition, only a few wealthy farmers with their own cars could ferry their produce to the market. Many farmers, including those who had prospered before the hard lockdown, struggled to regain their foothold in the markets in the aftermath of COVID-19.

> *The Mdladlamba household in Ncerha had been fairly prosperous before COVID-19, supplying fresh vegetables to two big retail supermarkets in East London. Demand for fresh produce declined dramatically when the hard lockdown to contain the spread of COVID-19 was enforced. At the time, the Mdladlamba household had produce ready for the market. They had 1 000 cabbages and an estimated 1 500 bunches of spinach. Most of these vegetables rotted since they could not access markets. Some of the street vendors that they supplied with vegetables did not place orders because they did not have permits to ply their trade. They also gave some of the vegetables to community members for free. According to Mrs Mdladlamba, "We also shared our vegetables with members of the village because some people were hungry but had no money to buy. We decided to give them vegetables for free". Although they applied for the Presidential Employment Stimulus Initiative (PESI), their application was unsuccessful. Government officials came to inspect the garden but never came back. Their attempts to offer the vegetables to local schools were also frustrated. Indeed, there are limited opportunities to supply local schools since they do not source most of their supplies from local farmers. The local school in the village only buys vegetables from two farmers. These two farmers only buy vegetables from other farmers if they do not have enough produce.*[15]

The COVID-19 crisis entrenched longstanding challenges experienced by smallholder farmers who were marginalised even further through unequal relationships in the wider value chains. Most smallholder farmers have been experiencing significant challenges in meeting the stringent requirements of the municipal fresh produce markets and the large retail supermarkets. The main challenge has been the failure to produce at scale to supply the large quantities required by these markets. Without economies of scale, it is difficult for most small-scale farmers to consistently supply produce to formal markets. Some challenges relate to the quality of the produce provided by these farmers. According to one farmer in Ncerha:

> *I sell my vegetables to women street traders in Buffalo Street in East London and had also start-*

15 Interview with Nomakhwezi Mdladlamba, 1 July 2021.

ed supplying Spar. But I ran out of produce. I had only started supplying a big retail supermarket and did not plan sufficiently for the need for continuity in supply of produce. As a small farmer there are limited choices. We don't have bargaining power and those who cultivate several hectares can afford to sell at cheaper prices. But the prices are not feasible for a small-scale producer. I am self-employed as a welder and the money I earn from welding supports my farming. I use earnings from welding to invest in farming. I prefer to sell to street hawkers. I sell a bunch of vegetables for R10. I don't have the transport to ferry vegetables to the fresh produce market.[16]

13. ACCESS TO STATE SUPPORT DURING COVID-19

While significant resources were set aside to cushion farmers from the adverse impacts of the hard lockdown, very few small-scale farmers managed to access support from the various initiatives (see Table 15). Discussions with research participants revealed that farmers who applied for assistance from the relief programmes under the auspices of registered cooperatives that had previously received state support had a better chance of receiving support.

We got vouchers from the government to buy seedlings, chemicals. The amounts that people got differed. Some cooperatives got R50 000. As a cooperative, we got a voucher for R30 000 for all seven members. I know some cooperatives got vouchers worth R70 000. I got two bags of fertiliser, a bag of maize seed, 5kgs of bean seed, potato seeds, butternut, cabbage seedlings, and spinach seedlings. I am grateful for the assistance because I had not expected to get any assistance.[17]

Some non-profit organisations also played a key role in assisting farmers within their programmes to apply for state assistance during the pandemic. Despite sustained support through cooperative structures and NGO networks, some farmers could not access the support they needed through the voucher system since they were compelled to take whatever inputs were available from selected distributors.

The kind of support provided by government did not consider the specific needs of those farmers engaged in agroecology and other sustainable farming practices. Only conventional inputs used in mainstream farming were available through different state relief support programmes for farmers. As one key informant noted:

Table 15: Different forms of relief support for rural smallholder farmers (n= 46 households)

Forms of support	N	%
COVID-19 input voucher	4	8.7
Direct input support	5	10.9
Transport to market	8	17.4
Food parcel	6	13

16 Interview with Daluxolo Mzamane, 30 June 2021.

17 Interview with Bhekisizwe Ngcolosi, 12 November 2021.

However, we realised that farmers were forced to take things that they didn't want. For example, we had many cases from our farmers who said, "We applied for poultry feed, but now when we get these vouchers, it's expiring next week and you have to take whatever is here". So now farmers were taking beans even when they did not have land to plant beans. But they were forced to take the beans. Or they asked for certain production inputs for maize. They didn't have maize inputs, so farmers ended up taking any inputs. PESI came up after they had funding that required farmers to have a certain turnover, around a million and that's for commercial farmers. But when PESI was introduced, it was meant to make things easy for small farmers. But they were saying take what you get and you don't get upset. The government was not as interactive with small farmers.[18]

Overall, there were extensive reports of corruption and capture of the farmers' relief schemes by local elites, including non-farmers and government employees. As a result, most of the farmers in small rural localities areas, like Ozwathini and Ncerha, could not access state support. Without institutional support from the NGOs and local cooperatives, most individual farmers struggled to access support from the state. Some of the challenges highlighted by the farmers include the lack of sufficient information on how to apply for state support. Some who managed to access the information simply got no response on whether their applications were successful. As a result, only a handful of farmers received support in Ozwathini and Ncerha. In fact, the support mechanisms were fragmented and insufficient. Some local municipal authorities and agricultural extension officers provided input support in the form of seedlings and seeds. Some extension officers took the initiative to informally provide farmers with transport for inputs and fresh produce during the lockdown. However, this was random and limited.

Overall, there were extensive reports of corruption and capture of the farmers' relief schemes by local elites, including non-farmers and government employees.

14. CONCLUSION

The contemporary global food economy is inherently vulnerable to shocks, given the high levels of corporate concentration, the pursuit of profits, and the vast but centralised distribution networks and value chains. The path-dependent approach in the corporate food regime has been to boost global food supply and intensify the application of green revolution technologies in response to crises while neglecting the human welfare impacts of a concentrated food system. Consequently, there has been a disjuncture between the tremendous increases in global food supplies and the increasing lack of access to food by the poor and marginalised. In times of crisis, these contradictions tend to intensify, and the corporate food regime often fails to ensure that everyone has access to food. It is based on industrial farming methods, which are capital-intensive and involve the use of fossil fuels, synthetic fertilisers, and agrochemicals with particularly negative ecological, environmental and climatic impacts. The development of alternative food systems that are locally embedded and sustainable is, therefore,

18 Interview with Cebisa Skhakha, 17 November 2021.

critical in fostering equitable access to food, halting the adverse impacts of industrial farming on the environment and climate, and ensuring resilient food systems that can withstand shocks. Localised food systems have been shown to be more resilient and ensure that food is available to everyone and is affordable. There are nascent efforts to promote sustainable and environmentally friendly farming methods by small farmers in localities like Ozwathini and Ncerha. However, since conventional farming remains dominant and shapes local food systems in multiple ways, food production by smallholder farmers in communal areas continues to use both chemicals and agroecological methods of production.

The COVID-19 pandemic revealed the vulnerability of the industrial forms of food production and, thus, demonstrated the need to support locally embedded food systems. Local food producers have been able to produce some of their food using indigenous knowledge to control pests and increase the fertility of the soil. This protected some of the farmers from food prices that had increased for some vegetables during the pandemic. This also saved them money to meet their other needs. However, insufficient policy support for small-scale farmers continues to undermine the viability of agricultural production in communal areas. Available support is also not appropriate for farmers engaged in sustainable farming. Thus, government support to smallholder farmers during pandemics or any other time should not be biased towards industrial forms of food production, but should also support sustainable farming through, for instance, ensuring that organic seeds are available and accessible to the farmers.

Government extension service providers should be trained to support local and agroecological food systems, from production to distribution of food. The ability of agroecological systems of food production and localised food systems to support the growing, urbanising population will only be known when adequate support is provided to the actors involved, and institutions and platforms of support are made available to farmers.

The development of alternative food systems that are locally embedded and sustainable is, therefore, critical in fostering equitable access to food, halting the adverse impacts of industrial farming on the environment and climate, and ensuring resilient food systems that can withstand shocks.

Agroecological transition will inherently be realised through coalitional politics, with multiple actors at multiple levels advocating for a wider structural shift towards sustainable, resilient and democratic food systems. The feasibility of agroecological farming can be greatly enhanced if rural producers are encouraged to tap into and integrate sustainable indigenous practices into their farming so as to reduce reliance on industrial inputs and simultaneously promote natural inputs. This would help achieve the first two transitional phases proposed by Gliessman (2018). The first phase focuses on reducing the use of environmentally damaging and costly inputs while the second phase is about the substitution of conventional inputs with agroecological alternatives. Despite the pervasive adoption of green revolution technologies, household food production in small-scale mixed farming systems relies on indigenous practices, the use of animal manure, intercropping with a wide variety of crops, and cooperative practices and arrangements.

Research and development need to focus on producing appropriate inputs and technologies for agroecological farming. The labour intensity involved in land preparation, weeding, and harvesting is untenable for most small-scale farmers given the increasing difficulties in mobilising family labour. One of the reasons given by elderly farmers for utilising herbicides is the lack of family labour. Most of the older farmers find manual work physically demanding. Farm implements designed to have

minimal impact on the environment are already being utilised in conservation agriculture which promotes minimum tillage. However, such technologies remain unaffordable for most household food producers. There is a need for research and development to prioritise organic fertilisers and biopesticides. While some farmers rely on home-made remedies, these methods are poorly understood and biopesticides are not readily available when there are pest and disease outbreaks

Political scaling up is critical for establishing institutional and policy support for agroecology. Industrial farming depends on a vast network of institutions and a knowledge system that propagates and perpetuates its practice. These include agricultural training institutions, research and development, policy experts, government officials and planners, extension services and the private sector and agribusiness.

The policy terrain remains constrained and policy support has been characterised by ambiguity and ambivalence. The same policies sometimes contain divergent and irreconcilable objectives, with more support directed towards industrial farming while agroecology and sustainable farming are often an add-on. Where standalone policies have been initiated, through agitation from civil society, the processes have been convoluted and the resultant policies have not been finalised and institutionalised. These uneven outcomes reflect the contested nature of the process, the continued dominance of vested interests, and the urgent need for coalitional approaches, with multiple actors coalescing to promote alternatives to the corporate food system.

Key to countering the dominance of industrial farming are bottom-up, participatory knowledge sharing and co-learning and training agroecological initiatives with low entry barriers. However, the scale of these activities remains small despite low entry barriers. In reality, small-scale farmers are compelled by market imperatives, such as buyer preferences in large retail supermarkets, to adopt modern seed varieties and synthetic fertilisers to speed up plant growth and meet the stringent market requirements for consistent supply and product quality.

Key to countering the dominance of industrial farming are bottom-up, participatory knowledge sharing and co-learning and training agroecological initiatives with low entry barriers.

In addition to incremental changes within farming systems, nurturing local markets through enhancing links between producers and consumers is integral to challenging growing buyers' power of retail supermarkets. In the absence of support from consumers within local communities and regional markets, the practice of sustainable farming will remain precarious and under constant threat from the pervasive influence of formal commodity markets that bypass local producers. Initiatives to foster local markets in Ozwathini and the envisaged knowledge-sharing agroecological hubs in Ncerha are good examples of nascent localised efforts that can be promoted and scaled up as alternatives to the corporate food system.

15. REFERENCES

African Centre for Biosafety (ACB). 2012. South Africa's seed system: Challenges for food sovereignty. African Centre for Biosafety, Melville, Johannesburg.

Aliber, M. and Cousins, B. 2013. Livelihoods after land reform in South Africa. *Journal of Agrarian Change*, 13(1): 140–165.

Andrew, M. and Fox, C. R. 2004. 'Undercultivation' and intensification in the Transkei: A case study of historical changes in the use of arable land in Nompa, Shixini. *Development Southern Africa,* 21(4): 687–706.

Button, K. 2017. The impact of intergenerational negotiations and power dynamics on the burden of care experienced by low-income grandmothers. Centre for Social Science Research (CSSR), Working Paper No. 400. University of Cape Town.

Cacho, M. T., Giraldo, O. F., Aldasoro, M., Morales, H., Ferguson, B. G., Rosset, P., et al. 2018. Bringing agroecology to scale: Key drivers and emblematic cases. *Agroecology and Sustainable Food Systems,* 42(6): 637–665.

Clapp, J. 2021. The problem with growing corporate concentration and power in the global food system. *Nature Food*, 2: 404–408.

Cousins B. and Chikazunga D. 2013. "Defining smallholder farmers in South Africa". In: Supporting smallholders into commercial agriculture: A social dialogue and learning project. Proceedings of the First Innovation Lab. Southern Africa Food Lab (SAFL) and the Institute for Poverty, Land and Agrarian Studies (PLAAS).

C19 People's Coalition. 2020. Submission to amend the COVID-19 agricultural disaster relief procedures and criteria for small farmers. C19 People's Coalition: South Africa.

de la Hay, M and Beinart, W. 2017. Why have South African smallholders abandoned arable production in fields? A case study. *Journal of Southern African Studies,* 43(4): 753–770.

Department of Agriculture, Land Reform and Rural Development. 2020. Minister Thoko Didiza announces interventions to assist agricultural sector during Coronavirus COVID-19 lockdown, 6 April. https://www.gov.za/speeches/minister-thoko-didiza-announces-interventions-assist-agricultural-sector-during-coronavirus

Department of Agriculture, Land Reform and Rural Development. 2021. Minister Thoko Didiza announces second phase of implementation of Presidential Employment Stimulus Initiative for subsistence producers. South African Government, 30 November. https://www.gov.za/speeches/minister-thoko-didiza-announces-second-phase-implementation-presidential-employment

Department of Agriculture, Land Reform and Rural Development. 2022. COVID-19 disaster agricultural support fund: DALRRD response to audit reports. Committees and Meetings, 22 March. https://pmg.org.za/committee-meeting/34639/

Food and Agriculture Organisation (FAO). 2018. The 10 elements of agroecology: Guiding the transition to food and agricultural systems. Food and Agriculture Organisation of the United Nations. Rome, Italy.

Food for Mzansi. 2022. PESI vouchers are back! Here is what you should know. https://www.foodformzansi.co.za/pesi-vouchers-are-back-heres-what-you-should-know/

Francis, D., Valodia, I. and Webster, E. 2020. Politics, policy and inequality in South Africa under COVID-19. *Agrarian South: Journal of Political Economy,* 9(3): 342–355.

Gliessman, S. 2018. Defining agroecology. *Sustainable Food Systems*, 42(6): 599–600.

Greenberg, S. 2011. Agroecology and agrarian change in South Africa: Towards a participatory democratic agroecology. Surplus People Project Final Report.

Greenberg, S. 2015. Agrarian reform and South Africa's agro-food system. *Journal of Peasant Studies*, 42(5): 957–979.

Greenberg, S. and Drimie, S. 2021. The state of the debate on agroecology in South Africa: A scan of actors, discourses and policies. Transitions to Agroecological Food Systems (TAFS) Project Final report.

Griffiths, J. 2020. Food parcels as an instrument of politics and corruption. Daily Maverick. https://www.dailymaverick.co.za/opinionista/2020-04-22-food-parcels-as-an-instrument-of-politics-and-corruption/

Hall, R. and Cousins, B. 2015. Commercial farming and agribusiness in South Africa and their changing roles in Africa's agro-food system. Land grabbing, conflict and agrarian-environmental transformations: perspectives from East and Southeast Asia. An international academic conference 5-6 June 2015.

Hall, R. and Wegerif, M. 2021. Building back better after Covid-19: Why South Africa needs an equitable food system for small-scale farmers and fishers, street traders and consumers – and how to build it. Policy Brief 56. Cape Town: Institute for Poverty, Land and Agrarian Studies, University of the Western Cape.

Igumbor, E., Sanders, D., Puoane, T., Tsolekile, L., Schwarz, C., Purdy, C., Swart, R., Durão, S and Hawkes, C. 2012. 'Big Food', the consumer food environment,

health, and the policy response in South Africa. Plos Medicine, 9(7): 1–7.

Jamieson, L. and van Blerk, L. 2021. Responding to COVID-19 in South Africa – social solidarity and social assistance. *Children's Geographies*, 1–10.

Köhler, T. and Bhorat, H. 2020. COVID-19, social protection, and the labour market in South Africa: Are social grants being targeted at the most vulnerable? Development Policy Research Unit. University of Cape Town: Working Paper 202008.

Mahlathini Development Foundation. 2021. WWF-Milestone 4: Third progress report and Provision of learning and implementation support for CRA practices using a Participatory Innovation Development (PID) approach, September 2021.

Department of Agriculture, Land Reform and Rural Development. 2021. Minister Thoko Didiza announces second phase of implementation of Presidential Employment Stimulus Initiative for subsistence producers. South African Government, 30 November. https://www.gov.za/speeches/minister-thoko-didiza-announces-second-phase-implementation-presidential-employment

McMichael, P. 2009. A food regime analysis of *the 'world food crisis'*. Agriculture and Human Values, 26: 281–295.

---. 2016. Commentary: Food regime for thought. *Journal of Peasant Studies*, 43(3): 648–670.

Mogale, C. 2020. Confronting the Bantustan epidemic in the face of a global pandemic: Coronavirus op-ed. *Daily Maverick*, 7 April. https://www.dailymaverick.co.za/article/2020-04-07-confronting-the-bantustan-epidemic-in-the-face-of-a-global-pandemic/

Moore, E. and Seekings, J. 2018. Social protection, intergenerational relationships and conflict in South Africa. Centre for Social Science Research (CSSR), Working Paper No. 419. University of Cape Town.

Moseley, W.G and Clapp, J. 2020. This food crisis is different: COVID-19 and the fragility of the neoliberal food security order. *Journal of Peasant Studies*, 47(4): 1393–1417.

Mtero, F. 2015. Deagrarianisation, livelihoods diversification and social differentiation in rural Eastern Cape, South Africa. PhD Thesis. University of the Western Cape.

Mtero, F., Hornby, D. and de Satgé, R. 2020. The structure and dynamics of South Africa's food system – the COVID-19 context. Land Network National Engagement Strategy (LANDNNES), 25 June.

Ortmann, G. F. and King, R. P. 2010. Research on agri-food supply chains in Southern Africa involving small-scale farmers: Current status and future possibilities. *Agrekon*, 49(4): 397–417.

Peters, P. 2013. Land appropriation, surplus people and a battle over visions of agrarian futures in Africa. *Journal of Peasant Studies*, 40(3): 537–562.

PLAAS. 2020. Food in the time of the coronavirus: Why we should be very, very afraid. South Africa. Institute for Poverty, Land and Agrarian Studies (PLAAS), University of the Western Cape. 1 April. https://www.plaas.org.za/food-in-the-time-of-the-coronavirus-why-we-should-be-very-very-afraid/

Republic of South Africa National Treasury. 2022. Estimates of National Expenditure.

Rosset, P. M and Altieri, M.A. 2017. Agroecology: Science and politics. Fernwood Publishing. Canada.

Seekings, J. 2020. Failure to feed: State, civil society and feeding schemes in South Africa in the first three months of COVID-19 lockdown, March to June 2020. CSSR Working Paper No. 455.

Scott, J. C. 1998. Seeing like a state: How certain schemes to improve the human condition have failed. Yale University Press.

Sihlobo, W. 2020. How Coronavirus will affect SA's food supply, 24 March. https://www.news24.com/fin24/Opinion/wandile-sihlobo-how-coronavirus-will-affect-sas-food-supply-20200324-2

Solidarity Fund. 2021. Farming Input Voucher Programme: Solidarity Fund Phase 1 Report, August. https://solidarityfund.co.za/media/2021/08/Farming_Input_Vouchers_190821-1.pdf.

Statistics South Africa (StatsSA). 2019. Towards measuring the extent of food security in South Africa: An examination of hunger and food insecurity. Report 03-00-13.

Tendall, D.M. et al. 2015. Food system resilience: Defining the concept. *Global Food Security*, 6: 17–23.

United Nations Development Programme (UNDP). 2020. COVID-19 in South Africa: Socio Economic Impact Assessment. United Nations in South Africa. https://docs.google.com/document/d/1mW6FlDMUzIEN-vb16WTyCFwghosZTF84QRL6Smp027A/edit#

Van der Ploeg, J. D. 2020. Growing back stronger: Choosing resilient food systems. Transnational Institute (TNI) Policy Brief.

Weis, T. 2007. The global food economy: The battle for the future of farming. Halifax and Winnipeg, Fernwood Publishing.

Wezel, A., Gemmill-Herren, B., Kerr, R. B., Barrios, E., Goncalvez, A. L. R., and Sinclair, F. 2020. Agroecological principles and elements and their implications for transitioning to sustainable food systems: A review. *Agronomy for Sustainable Development*, 40: 1–13.

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