

Article

Emerging from Below? Understanding the Livelihood Trajectories of Smallholder Livestock Farmers in Eastern Cape Province, South Africa

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Abstract: In the context of current agrarian reform efforts in South Africa, this paper analyses the livelihood trajectories of ‘emergent’ farmers in Eastern Cape Province. We apply a rural livelihoods framework to 60 emergent cattle farmers to understand the different capitals they have drawn upon in transitioning to their current class positions and associated vulnerability. The analysis shows that, for the majority of farmers, no real ‘transition’ from subsistence farming has occurred. However, they draw limited resilience from increased livestock holdings, continued reliance on social grants and connections with communal villages. A transition into small-scale commercial farming is apparent for a small number of farmers through the deployment of financial, human and social capitals. However, in following these trajectories, most of these farmers have been made more vulnerable to shocks and stresses than previously. We suggest that key to mitigating this vulnerability will be access to low-risk financial capital, more targeted support, and strategies to support farmers that might not transition from subsistence production.

Keywords: livelihood strategies; agrarian reform policy; livelihood capitals; resilience; vulnerability



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1. Introduction

Agrarian reform in Africa, particularly in Sub-Saharan Africa (SSA), remains subject to considerable debate by policy makers, academics and practitioners, regarding both its primary goal and how it should be achieved. On one hand, many scholars and land activists maintain that the main focus of agrarian reform should be on providing fair and equitable access to land for as many smallholder producers (peasant farmers) as possible to enable them to create secure and resilient livelihoods [1–6]. More recently, however, in the context of concerns about food and nutrition insecurity in SSA [7–9], agrarian reform approaches have become much more closely aligned with neo-liberal agendas focused on the commercialisation of smallholder agriculture and related approaches such as the provision of secure land rights through land titling [10,11]. Protagonists of these approaches argue strongly that food insecurity in Africa, and indeed SSA, can only effectively be addressed through a greater focus on commercial production linked to local and international markets [12,13]. Indeed, there is now evidence of this translating into policy and practice in southern Africa [14], and SSA more broadly [15,16]. However, commercialisation of smallholder agriculture as a mechanism to effectively address rural poverty, improve livelihoods and food security in SSA remains heavily contested for a number of reasons [14–17].

Firstly, many scholars have suggested that a focus on transitioning smallholder farmers into commercial agriculture, particularly where this is linked to provision of private farms, does little to improve livelihoods for the rural majority who are inevitably excluded

from land ownership [6,17–19]. Secondly, the ability of smallholder agriculture to be commercially viable has also been questioned [20,21]. Smallholder farmers remain excluded from competitive markets due to poor yields, limited knowledge, lack of appropriate technology and inherent market risks due to ineffective institutional and market linkages [16,22]. Furthermore, in several countries within SSA, where attempts at broadscale commercialisation are already underway, the process has been criticised for doing relatively little to enable the required commercial transition to occur amongst the subsistence farmers it was designed to support. Instead, it has inadvertently created a spectrum of farmer classes with access to private farmland, among them smallholder subsistence farmers who have failed to make the commercial transition, medium-scale commercial farmers, and elite emergent black capitalist farmers, e.g., see [23,24] for South Africa; [25] for Zambia; [26] for Zimbabwe; and [15] for Kenya. This has only served to intensify the debate as to whether the commercialisation of smallholder agriculture in SSA can really achieve effective and inclusive food security [25].

South Africa provides an interesting case through which to examine efforts to realize this commercialisation. Here, agriculture and land holdings remain contentious and dualistic [27], a legacy of the colonial system [28]. Consequently, despite having the second largest economy in Africa, South Africa has the highest poverty inequality in the world, with some 10.5 million people surviving on less than USD 1.90 per day in 2017 [29]. The majority of these rural poor still rely on agriculture to underpin their livelihoods and are indicative of the link between poverty and agriculture identified in many SSA countries (e.g., [30–33]). To help address this, the ambitious objectives of agrarian reform, in South Africa, have been to encourage smallholder farmers into commercial agriculture [34], reduce rural poverty and resolve the skewed colonial distribution of land [35] but the focus has changed at different stages of the reform process.

Agrarian reform process in South Africa is based on a tri-component market-led approach consisting of land tenure reform, land restitution and land redistribution, a process which has been extensively reviewed (e.g., [27,34–37]). Initial efforts in 1994–1999, based on the Settlement and Land Acquisition Grant (SLAG) model, focused primarily on the redistribution of private farms to enable historically disadvantaged poor people to secure access to land for their own production needs. Here, each beneficiary received a ZAR 16,000 (USD 864) grant, and most beneficiaries pooled these grants to purchase a farm as a group under the ‘willing buyer, willing seller’ arrangements (the cost of land was estimated to be ZAR 900 (USD 48.6)/hectare [38] (ZAR is the South African Rand, converted at 0.054 to United States Dollars, the official exchange rate as at 15 April 2020).

However, since 2000, the Land Redistribution for Agricultural Development (LRAD), and subsequent Proactive Land Acquisition Strategy (PLAS) models of reform placed much greater emphasis on production, which shifted the redistribution of farmland towards better-off black entrepreneurs [18,36], effectively shifting policy away from the broad-based ‘accumulation from below’ approach aimed for under SLAG. LRAD offered larger grants and finance schemes to black entrepreneurs to purchase land, in the process distributing land to fewer beneficiaries on a freehold basis. PLAS, which followed LRAD in 2005, represented a further change in approach from freehold ownership, with land purchased at ‘market price’ by the government and distributed to beneficiaries on a leasehold basis. Whilst this was ostensibly introduced to achieve more equitable land access, the lack of secure title to land remains a major challenge with the PLAS model [23]. Despite the shift in approach, these models of land distribution have both focused on the creation of medium-scale black capitalist farmers—so-called ‘emergent’ farmers—who are able to expand beyond petty commodity production into commercial production [2,3,24,28]. However, due to the relatively slow pace of land redistribution, weak post-resettlement support and the precarious livelihoods of many land reform recipients, as well as the opportunities it has afforded for elite capture, the achievements of the process remain contentious (e.g., [23,27,35,37,39]).

Moreover, there is now genuine concern that putting commercialisation at the centre of agrarian reform policy in South Africa, is exposing smallholder farmers to unfamiliar sets of shocks and stresses, which they have limited capacity to overcome, potentially undermining livelihoods. Often when confronted with shocks and stresses, smallholders attempt to diversify their livelihoods to buffer risk and reduce vulnerability [40,41]. However, these attempts at diversification have, in some cases, had counter-productive consequences. For example, small-scale farmers in some cases have demonstrated so-called 'illusive inclusion' by receiving land from the state that they do not have the capacity to farm, and instead generating income by renting it out to commercial farmers [42] (p. 470). This raises important questions about the types of livelihood transformations smallholder farmers in South Africa are making in response to current agrarian reform policy and how sustainable these are. Several studies have identified livelihood trajectories of smallholder farmers in different contexts [43–46]. A particular focus in SSA [47–50], has been on understanding the livelihood dynamics of smallholder farmers after agrarian reform. However, there has been less focus on identifying the different livelihood assets that smallholder farmers have drawn upon in shaping their livelihood trajectories and transition out of poverty. Understanding the processes through which smallholders have brought about these livelihood transitions, and whether as part of this they have become more or less vulnerable than previously, is fundamental in providing a grounded basis for improvements to both the policy and practice of land reform in South Africa. Within this, a greater theoretical analysis of these transitions from a class analytical perspective will be important both in terms of understanding processes of class formation (e.g., through accumulation from below) associated with smallholder transitions in South Africa (e.g., [51]) and, specifically, how this is reflected in existing class typologies (e.g., [2]). More broadly, such analysis is also fundamental to shedding more light on key debates about how to transition smallholder farmers out of poverty and achieve greater food security within SSA [9,52]. The current narrative that access to land and agricultural commercialisation are key to poverty and food insecurity alleviation for smallholder households remains highly contentious [17,30,52,53] for a number of reasons. Firstly, linking poverty reduction to land and commercial production fails to understand the multi-stranded livelihood strategies adopted by many smallholder farmers to minimize risk [6]. For many smallholders in South Africa, agricultural production is primarily subsistence based, and underpins a livelihood strategy that might also involve waged employment, receipt of state benefits and small-scale non-agricultural business activities [41]. Access to more land, by smallholders does not therefore directly translate into greater desire to produce commercially but rather a desire for greater security through, for example, the larger number of livestock that can be supported to buffer livelihoods in times of need. Secondly, even where the desire to produce for sale is apparent in more entrepreneurial farmers, land provision in itself (by whatever means) is insufficient to transition most smallholder farmers into commercial production. Such a transition has to be supported by access to markets and an ability not only to access the physical assets needed to produce but to also develop the required knowledge to produce for commercial sale [52,54].

This article seeks to understand the livelihood trajectories of emergent livestock farmers in South Africa, in relation to their transition from subsistence production to semi-commercial or commercial production as part of agrarian reform. We focus on livestock farmers as much of the political focus in Eastern Cape (where the study was undertaken) has been on more effectively connecting livestock producers with formal commercial markets [55]. We seek to deepen this understanding by addressing three broad questions: (i) to what extent is a recognised transition being made by smallholder livestock farmers from one production strategy to another? (ii) how are they effecting these transitions in terms of the key livelihood capitals they are drawing on and how they are using them? (iii) do these transitions enable these farmers to become more resilient or make them more vulnerable to the shocks and stresses they currently face?

2. Materials and Methods

2.1. Study Site and Data Collection

The study, carried out in 2017 and 2018, focused on 60 ‘emergent’ livestock farmers who, as part of agrarian reform, have been resettled on private farms surrounding the small town of Elliot (31°31′30″ S, 27°83′70″ E), in Eastern Cape Province (Figure 1). Elliot is 28.85 km² in area, with an estimated population of 14,376 (2011 census) [56]. The farmers were selected from a broader cohort of 155 emergent farmers in the area, by purposive sampling [57] within four strata based on: (i) the land reform model they benefitted from (SLAG, LRAD or PLAS); (ii) the primary cooperative they belonged to (one of five); (iii) whether they farmed individually or as part of a group; and (iv) farm characteristics, i.e., farm size and location. The farmers were settled on private farmland between 1995 and 2010 from various surrounding communal villages and towns, e.g., Mthatha, Tsomo, Gxwalibomvu, Ncorha, Cofimvaba, Cala, Ngcobo and are mostly organised into livestock marketing cooperatives [24]. Data collection was through a semi-structured interview with each of the 60 farmers, which was framed around the key capitals they had access to before and after agrarian reform. This was augmented by information from focus group discussions held with groups of farmers from each of the five primary cooperatives supporting the agrarian reform process (see [58]), interviews with key informants and use of secondary data sources, to provide a broader quantitative and qualitative understanding of the local socio-political situation and livestock dynamics.

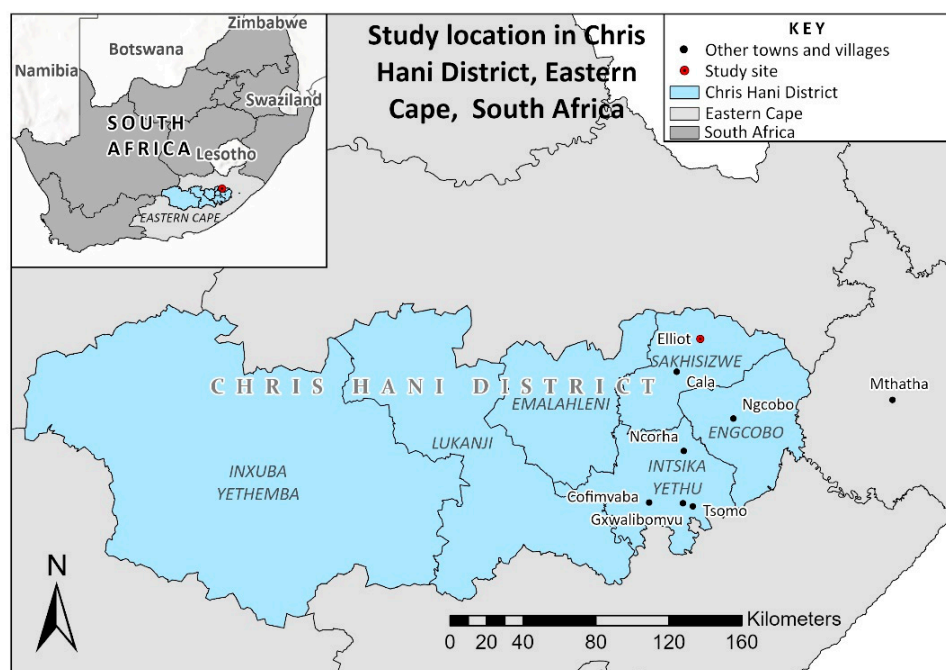


Figure 1. Map indicating study site (Elliot) in Eastern Cape Province, South Africa. Source: Maps adapted by the authors and Jonathan Tinsley from ArcGIS.

2.2. Data Analysis

We frame our livelihood analysis around an existing class analysis of 60 emergent farmers, whose main farming activity is livestock production. The criteria to categorise these farmers into these classes included livestock holding and marketed volumes, land holding size and accumulation strategy; and also drew on related typologies such as that of [2]. This is explained in more detail in an earlier article [24]. This identified three broad classes of farmers: subsistence farmers on private land; small-scale commercial farmers; and fully commercialised farmers and we analyse the livelihood trajectories and strategies within each of these classes. Data were coded and analysed using NVivo release 21.1 [59], through data indexing to identify emergent themes and understand factors that

shaped livelihood decisions and strategies. We use the Sustainable Livelihoods Framework (SLF) [60,61] to understand the livelihood trajectories of the emergent farmers within these three broad classes, primarily by identifying the different capitals they have drawn upon to facilitate their transition from one class position to another, and also whether they have become more resilient or vulnerable as a consequence. We further exemplify this through the use of selected cases.

2.3. Theoretical Underpinnings

A livelihood is conceptualised to be sustainable when it can maintain or enhance its capabilities in the context of socio-economic and ecological change, i.e., cope and recover from shocks and stresses (the vulnerability complex) without depleting its natural resource base [60,61]. Consequently, livelihood resilience stems from coping with the vulnerability complex, which is largely dependent on the different combinations of livelihood capitals/assets and activities, i.e., the livelihood strategy [46,62]. Several authors define resilience as the capacity of systems or actors to cope, adjust or bounce back from a shock or stress and maintain structure, function and identity in terms of buffer capacity (ability to absorb change), self-organisation (adaptive capacity) and learning capacity (modification or transformation) (e.g., [63–67]). Furthermore, it has been demonstrated that the concept of livelihood sustainability as captured within the SLF can be effectively linked to this conceptualisation of resilience [46,64,67]. Buffer capacity is framed by the livelihood capitals or assets available; self-organisation is framed by the institutions and networks that determine how assets are accessed to adapt to the adversity; and learning capacity defines the knowledge that underpins decisions on combinations of assets and activities arrived at in adapting to the vulnerability complex, i.e., the livelihood strategies. Self-organisation is defined as the norms, i.e., rules and values; social structure (top-down process); human agency (bottom-up process) and social networks that determine how livelihood capitals are accessed, either as individuals or as organised groups [64,67]. The SLF is therefore appropriate in terms of its ability to use the capitals to explain the transition process, understand the institutions and networks that determine which assets are accessed, and explain the strategic decisions that households make to cope with shocks/stresses and perceived risk to sustain livelihoods. We frame this understanding in Figure 2 below.

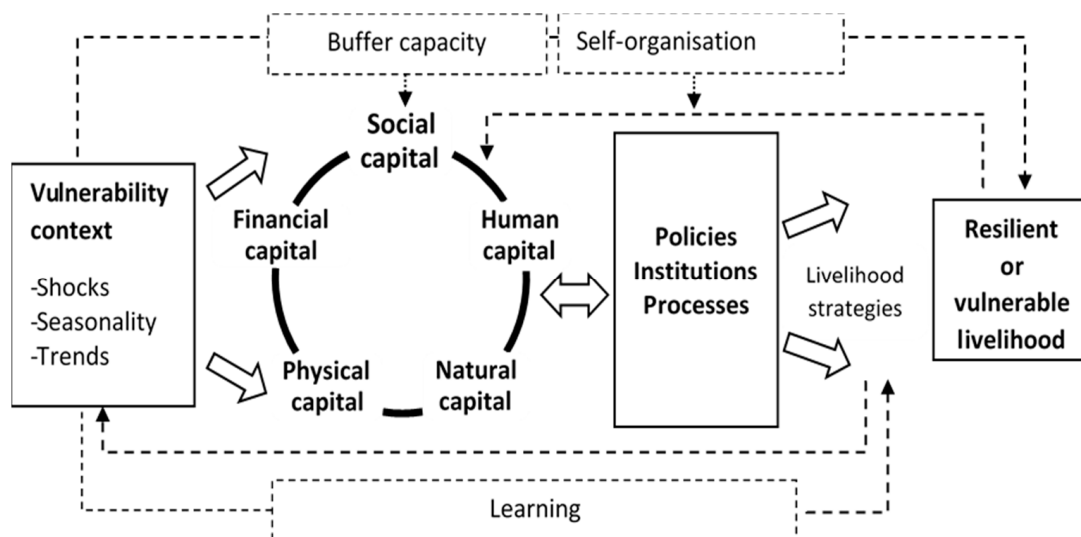


Figure 2. The Sustainable Livelihoods Framework (SLF) through a resilience lens. Source: adapted by author from [68].

3. Results and Analysis

3.1. Land-based Livelihoods before Accessing Private Farmland

Prior to accessing private farmland between 1995 and 2010 as part of agrarian reform, the 60 emergent farmers included in this study were located in various communal villages and towns in the area, e.g., Mthatha, Tsomo, Gxwalibomvu, Ncorha, Cofimvaba, Cala, Ngcobo; with 85% of them having existing access to small fragmented land parcels of less than three hectares in size under usufruct or communal tenure. Based on the resources they had access to and their production strategies, two distinct groups were evident (Table 1) Firstly, a smaller group of nine smallholder farmers already producing surplus agricultural products and engaging with markets, akin to the ‘expanding commercial smallholders’ described by [2] (p. 5). Secondly, a larger group of 51 farmers who were subsistence-focused and produced little if any surplus for local markets.

Table 1. Livelihood strategies pursued by the emergent farmers before land access in the Eastern Cape Province, South Africa.

Component and Strategy	Expanding Commercial Smallholder Farmers (n = 9)	Subsistence-Oriented Smallholder Farmers (n = 51)
Natural capital	Access to large land holdings purchased or rented (up to 230 ha). Strategic conversion of financial capital into more land to engage in capitalist production.	Access to small land holdings (up to 3 ha) and communal grazing. Usufruct tenure prevented them from accessing formal loans using land.
Human/social capital	Not formally organized into agricultural cooperatives, although five were members of local unions. They were educated to tertiary level and all had market awareness. Family labour and employed extra labour to expand productivity.	Not formally organized. 60% were educated to primary level and had limited agricultural knowledge/training. Family labour. Important family and cultural ties.
Financial assets	Income diversification. Relatively high agricultural income, average above ZAR 15,000 (USD 810)/annum. Up to 10 animals sold per year, through access to external markets. Substantial non-farm income, e.g., from businesses. Loans raised through their business and/or private farms. Able to substitute/combine financial assets with other assets.	Diversified income: Low and irregular agricultural income, averaging ZAR 7200 (USD 389)/annum. Up to 3 cattle sold/year, mainly to local markets. Agricultural income augmented by social grants, remittances and wage labour (up to 70%). Conversion of assets is limited.
Productive assets	Cash crops and larger herd sizes for marketing (mean 23, range 10–51 cattle). External inputs, e.g., dipping chemicals and infrastructure, e.g., vehicles to markets.	Small herd sizes (mean 9, range 2–24 cattle; mean 17, range 9–30 sheep) and subsistence cropping for household consumption. Limited external inputs, vulnerability to drought and disease burden.

3.2. Expanding Commercial Smallholder Farmers

According to [2] (p. 5), expanding commercial smallholders are farmers who “... already farm commercially on a small-scale, but are constrained by lack of land and other resources”. The nine expanding smallholder farmers in this study had access to more than three hectares of land prior to their engagement with land reform. Six of them achieved this by accessing additional land through local lease arrangements (average land holding 15–20 ha) and three through having access to private-farms (farms were 67 ha, 142 ha and 230 ha in size) purchased between 1971 and 1995. The six farmers who leased land, did so primarily to engage in horticultural production, producing cash crops such as potatoes, carrots, spinach and cabbages for sale in local markets, along with maize for sale and livestock feed. Leased land enabled them to begin to engage in small-scale capitalist production, keep larger herds of cattle and sheep and access external markets. The three

farmers who owned family farms used their larger land holdings to begin to expand their small-scale capitalist production as a key part of their broader business interests. They kept larger numbers of livestock, produced cash crops such as potatoes and maize and regularly marketed up to 10 cattle/year and crops to spot markets and supermarkets. However, the larger part of their livelihoods was still supported by substantial non-farm income, mostly from non-agricultural businesses (e.g., funeral insurance, real estate, consultancy firms) they were running. Importantly, they were able to utilise their financial capital to buffer risk, for example by purchasing chemicals and vaccines against animal diseases, and to cross-subsidise between their agricultural and non-agricultural livelihood portfolios. They engaged with asset clustering and substitution [61,69] to enable accumulation and diversification of their livelihoods, as summarised in Table 1.

3.3. Subsistence-Oriented Farmers

The 51 farmers who had access to three hectares or less prior to land reform, engaged mainly in subsistence agriculture supplemented by income from petty commodity production, waged labour and receipt of grants and remittances. Opportunities for them to expand their agricultural production within the communal system were limited. One farmer pointed out that:

‘We were limited in the numbers of livestock we could produce because land for grazing was small, especially in winter the animals practically had nothing to graze. The grazing there is for everybody, and not just for you. So, having a lot of cattle was difficult’.

Most farmers coped with limited livelihood options, asset endowment and adversity through income diversification, particularly non-farm income. Due to the communal land tenure system, which does not provide legally secure access to land [70], farmers were unable to access formal loans against land-holdings to expand productivity. Consequently, almost half of the farmers relied on social grants as their main source of income. A further 13 farmers gained some limited income from wage labour or remittances from employed family members. In total, 80% of farmers owned less than 20 cattle and sold no more than three cattle annually, a few sheep and occasionally wool. Cattle sales were limited to older cattle in response to a particular cash need and therefore cattle served as a capital ‘sink’. However, when a cash need arose, cattle marketing was difficult and limited to local markets, with a relatively low average selling price of ZAR 3000–4000 (USD 162–216), recorded between 1995 and 2000. This is similar to prices reported by [71] for the same region and period. The farmers also produced subsistence crops such as maize, potatoes and cabbage for home consumption.

3.4. Emergent Farmer Livelihoods after Accessing Land

After accessing land on freehold or leasehold through SLAG, LRAD or PLAS programmes described earlier, these two categories of farmers (nine expanding smallholder farmers and 51 subsistence smallholder farmers) transitioned into three broad categories (43 subsistence farmers on private land; 12 small-scale commercial farmers; and five fully commercialised farmers) [24], as represented in Figure 3. The trajectories they followed as part of this transition are described below.

3.5. Subsistence Farmers on Private Land

This group, consisting of 43 farmers, accessed freehold land ranging in size from 10 to 379 ha through either SLAG or LRAD, but demonstrated little or no transition from their original subsistence mode of production. This range included individually accessed smaller farms and larger farms collectively accessed as groups. Farmers who received land on a small group basis (four farmers in this case) eventually separated from one another leaving only a single family or smaller number of individuals on the farm, primarily due to challenges associated with production, benefit sharing, leadership conflicts and poor post-resettlement government support. Challenges with group dynamics have been extensively reported in previous studies of agrarian reform beneficiaries [27,36,72,73]. Within this

group of subsistence farmers, two broad sub-groups were also apparent reflecting varying degrees of engagement with the private farmland that they had acquired and associated levels of petty-commodity production. However, it should be noted that these sub-groups were not static but represent a dynamic continuum with farmers intermittently moving from one sub-group to another at different times, as indicated in Figure 3.

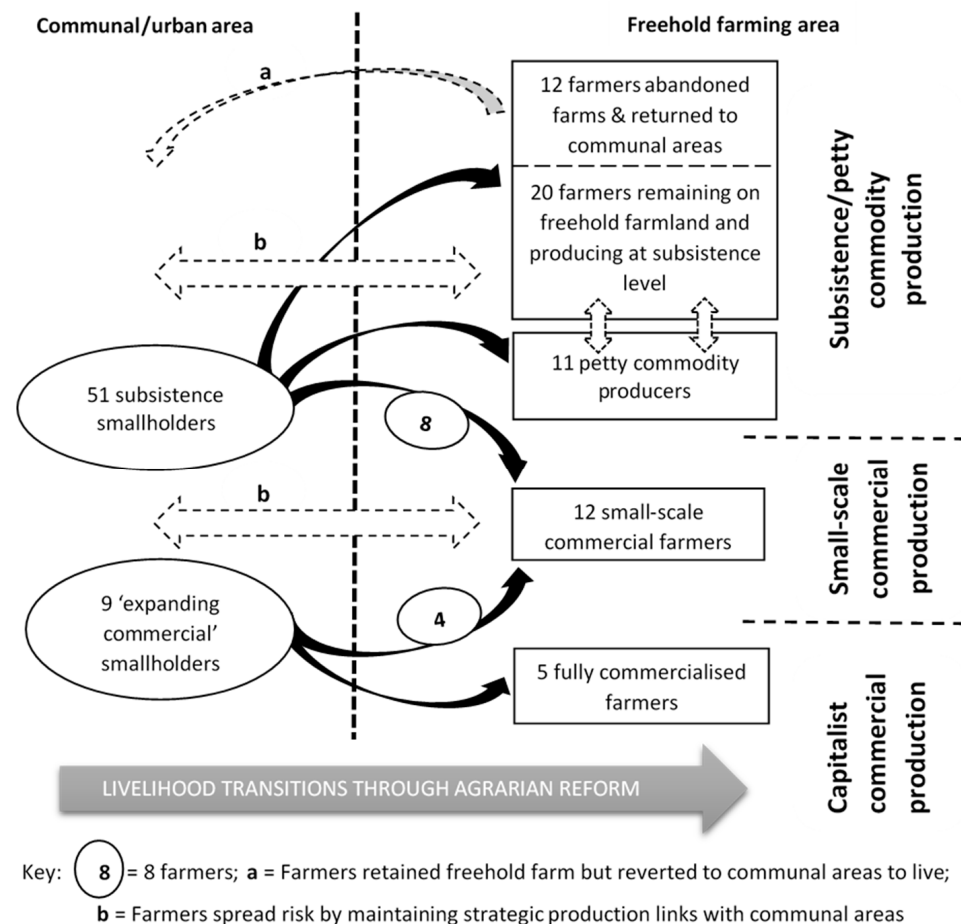


Figure 3. Livelihood transitions of 60 'emergent' farmers facilitated by accessing freehold farmland through agrarian reform in the Eastern Cape Province, South Africa.

3.6. Hanging-In' on Private Farms or Reversion to Subsistence Farming in Communal Areas

The first sub-group consisted of 32 ostensibly subsistence farmers. It included a smaller group of 12 farmers (seven men and five women) who were unable to sustain themselves on the farms they were allocated and had returned to live in their communal areas, and a larger group of 20 farmers (16 men: 4 women) who had remained on their farms but were unable to move much beyond subsistence production. For the 12 who had effectively abandoned their farms and reverted to reliance on communal subsistence agricultural production augmented by social grants, wage labour or remittances, the only continuous connection they maintained with these farms was through the livestock they grazed there and a worker or relative left to take care of the animals. There was no livelihood trajectory or obvious transition from one form of production to another for either group. There are a number of potential reasons for this, which can be explained through their limited ability to draw on important sets of capitals when they were on these farms.

Firstly, in terms of natural capital some farms were relatively small in size (mean 69 ha, range 10 to 250 ha for those who abandoned farms; mean 172 ha, range 98 to 250 ha for those who remained on the farms) and had limited grazing capacity to support livestock numbers at levels compatible with commercial agriculture. Most of the farms also lacked

key physical assets such as functional dams, forcing farmers to rely on seasonal streams and neighbouring farms with dams, to water their livestock. This meant that times of additional water stress associated with drought, severely affected these farmers and resulted in substantial livestock deaths. Most were without electricity or irrigation infrastructure, which meant that farmers relied on rain-fed agriculture and were further prone to climate vulnerabilities. They also lacked cattle handling and loading facilities; functional farm equipment and infrastructure, e.g., tractors, ploughs and bailers; boundary and internal camp fencing. Lack of fencing contributed to uncontrolled livestock breeding and stock-theft. Critically, many of the farms were also difficult to access, the dirt roads connecting them being dilapidated and effectively unusable during the wet season, and transport operators hired to market their animals charged them excessively as a consequence. These farms were an average of 42 km (range 25–68 km) from the main local market in Elliot and only five of these farmers had their own vehicles to transport livestock.

Secondly, five out of the 12 abandoned farms also bordered communal areas, which was problematic because they experienced greater levels of stock-theft (see Case Study 1) and boundary conflict with communal farmers, who frequently accessed parts of these farms for grazing prior to them being redistributed. This meant that it was not only difficult for them to hold onto their land and livestock but also, given their dislocation from their own communal areas, to forge new social networks with the communal farmers they were in conflict with. This limited their social capital, which was further weakened by a lack of support from their respective cooperatives and extension services. Collectively, these farmers were organized under one of five local cooperatives. However, these often failed to access many of the agrarian support programmes available from government or, where they did so, to disburse the benefits evenly to the farmers within them [58]. Indeed, of the 32 farmers in this group, only one farmer had benefitted directly from the cooperative they were a member of, receiving 10 cattle from a livestock programme and some fencing.

Thirdly, these farmers had very little prior understanding of commercial agriculture (limited human capital) and drew primarily on basic farming experience gained through communal production. Lastly, none of these farmers had the capacity to access formal financial capital or had insurance. A few accessed informal loans, but these were unpopular due to their very high interest rates. This prevented them from effectively investing in their farms to improve infrastructure or from engaging with mechanised crop production.

Thus, these 32 farmers were limited in their attempts to expand their production base primarily by poor physical capital (on-farm infrastructure) and an inability to raise the financial capital necessary to address this. This was exacerbated, particularly for the 12 farmers who ended up returning to their communal areas, by a dislocation from the communal networks they could normally draw on for assistance and an inability to replace these with alternative, local production networks such as cooperatives or reciprocal relations with neighbouring farmers. Ultimately, the potential of all of these farmers to make any recognisable transition to commercial production has been compromised by their inability to absorb the level of change required, i.e., limited buffer capacity, particularly with regard to physical and human capital, and limited self-organisation due to an inability to engage with the appropriate networks and institutions they could draw upon. This is underlined by Case 1 below.

Case 1—Farm abandonment: Farmer Celani originally had a small 0.9 ha garden plot in Verganoeg communal area, where she produced maize, potatoes and cabbage for home consumption and grazed six cross-bred cattle and 29 sheep on communal pasture. She sold one cow and two sheep and lost two cattle and four sheep to diseases and stock-theft between 1999 and 2001. Her household relied primarily on wage labour and social grants for survival. In 2002, she individually accessed a 112 ha farm through LRAD with the goal of using it to generate income from livestock sales. The farm, which had no electricity, incomplete boundary fencing, no internal fencing and one dysfunctional dam, was 38 km from Elliot. She moved her animals to the farm in the hope of increasing livestock production but ran into many difficulties in doing so. As the partially-fenced

farm bordered the communal areas of Ngcobo, she lost a bull and five sheep in the first year due to stock-theft. Due to the fields being infested with invasive black wattle and lack of agricultural equipment, she could not produce food crops and relied instead on food produced in her former communal area. Despite problems with theft, she managed to expand the herd to eight cattle, but due to lack of feed during a period of drought, coupled with limited capacity to treat parasites, two young animals died. The farmer struggled to market cattle due primarily to a lack of transport and the virtually inaccessible road to the farm, and between 2007 and 2008, she sold just one cow for ZAR 7500 (USD 405) and four sheep at ZAR 1000 (USD 54) each, all in the communal areas of Ngcobo. The farmer was part of a cooperative, but was unable to benefit from any livestock programmes, equipment or training and received no visits from extension personnel. During this period farmer Celani continued to rely mainly on social grants for her livelihood. In 2008, the farmer gave up her attempts to farm commercially and relocated back to the communal area. The farmer now only makes use of the farm to rent out part of it to a neighbouring farmer.

Despite any clear trajectory away from subsistence production, it can be argued that access to these farms has, nonetheless, improved the livelihood security of most of these farmers with the majority having been able to expand their livestock holdings or rent their farms out for cash income. Since accessing their farms these farmers have increased their mean cattle holdings from nine (see Table 1) to 25 (range 8–40) animals, and their sheep flocks from an average of 17 to currently 58 (range 30–70) animals, which are used to generate cash income when the need arises. These livestock, predominantly indigenous breeds, are resilient to local diseases but unsuitable for the formal market, hence farmers sold only occasionally through the social networks they maintained within communal areas. This livelihood stream is supplemented by social grants and remittances. For those farmers who have remained on their farms, three sets of capitals appear to be important in achieving this.

Firstly, these farmers have continued to rely on their social networks within former communal areas for access to cattle and sheep markets. Indeed, 18 of these farmers still retain livestock and undertake crop production in their former communal areas. Secondly, they have been able to diversify their productive assets. Their farms now effectively function as an extension of their former communal production systems, enabling them to increase their natural capital, i.e., livestock numbers, in most cases. Much of their focus has been on building up sheep numbers, as these are easier to sell to cover urgent cash needs, reflecting their continuing reliance on livestock as a store of wealth. This also underlines their ability to adapt to relatively poor cattle markets through knowledge of market dynamics, exhibiting a capacity to learn. Thirdly, these farmers also demonstrate clear income diversification to mitigate risk. Although they continued to derive steady streams of income from social grants and remittances and occasional animal sales, seven farmers now augment this income with wool sales from their larger sheep herds. A further three farmers earn income from wage labour and ten occasionally lease out part of the farms, providing greater financial security. This underlines the ability of relatively poor farmers to draw on existing capitals to develop important multi-stranded livelihood strategies to ‘hang-in’ as they struggle to sustain precarious livelihoods (see [74,75] for Zimbabwe; and [76] for Kenya). These characteristics are summarised for this group and other farmer classes in Table 2.

Table 2. Resilience and vulnerability factors for emergent livestock farmers attempting to transition to commercial agriculture in the Eastern Cape Province, South Africa.

Trajectory	Assets they Drew on	Vulnerability Factors	Resilience Factors	
Subsistence farmers on private land	Hanging-in on private farms or reverting to communal areas	No significant change in assets they draw on beyond increase in natural capital (access to average 60 ha farmland and associated increase in livestock holdings). Maintain social, marketing and production network linkages with former communal areas. Diversified income sources (wool, leasing land and wage labour). Increased sheep marketing (market knowledge).	Poor buffer capacity (limited access to all asset groups). Poor self-organisation capacity (inability to adapt from communal networks to unfamiliar production and market networks, poor support from cooperatives). Limited production knowledge.	Use of resilient, indigenous breeds. Secure income from social grants. Diversified financial sources e.g., leased land. Slightly increased livestock numbers (25 cattle, 58 sheep) provide greater security. Networks with former communal areas.
	Petty commodity producers	Increased natural (average 293 ha land) and productive (40–50 cattle; improved livestock breeds) capital. Have developed new (positions in cooperatives and accessing benefits) and retained former (communal) social and market networks. Greater human capital.	Limited buffer capacity due to persistent physical (infrastructure), financial (loans, insurance) and market capital limitations.	Some formal market access. Socio/political capital (cooperatives). Greater human capital. Income diversity (wool, leasing land). Continue to draw on social grants.
Small-scale commercial producers	Access to financial capital (loans, personal funds, formal markets). Expanded physical (average 416 ha land) and productive (average 133 cattle, 216 sheep) assets. Strong current (cooperative) and former (communal) socio-political linkages for most farmers. Strong human capital (market awareness, and production knowledge).	High levels of financial indebtedness in some cases. Limited buffer capacity due to poor physical capital (e.g., irrigation to supplement livestock fodder) and market price volatility.	Strong socio-political capital. Human capital (production process knowledge, hired labour). Balance risk between farms and communal areas.	
Fully commercialised farmers	Extensive physical (491–1600 ha farmland), human and productive capital. External financial capital, strong socio-political linkages.	Market monopoly and market price volatility.	Access to capitals. Extensive socio-political networks. External businesses/capital.	

3.7. Petty Commodity Producers

This group of 11 farmers (nine men and two women), demonstrated a clearer although sometimes intermittent transition from subsistence production in their livelihood strategy than the previous group, through more widespread engagement with petty commodity production. They generally had access to larger farms than the other group, averaging 293 ha (ranging from 216 to 379 ha) in size. They also had more livestock with an average of 41 (range 40–50) mixed-breed cattle and up to 100 sheep, marketing an average of five cattle and 20 sheep annually. Whilst they still relied heavily on selling sheep to cover urgent cash needs, they also now drew on additional capitals to the ones they previously relied on. The farms were located at an average distance of 25 kms (range of 10 to 34 kms) from the Elliot market and five of the farmers owned their own vehicle, allowing them to market their cattle through both the formal and informal markets. Those who did not have their own vehicle, hired transport or marketed their animals through neighbouring farmers who did.

This transition from subsistence production can be related to changes they brought about in two sets of capitals. Firstly, these farmers strengthened their social capital, retaining their links with communal areas but augmenting these with stronger networks within their respective cooperatives, particularly for those who became committee members. As such, three of these farmers received between 10 and 29 cattle from livestock programmes and fencing from DRDAR through their cooperatives. However, links to communal areas remained important for them, with four of the farmers still engaging in subsistence

livestock and crop production using land in their former communal villages and primarily using their farms to generate additional produce to sell—a clear indicator of progression towards petty commodity production. Secondly, several were able to expand their human capital, with four of the farmers receiving some form of training in more intensive livestock production and husbandry through their cooperative, and one had a formal education in agriculture.

However, the challenges associated with physical capital on their farms outlined for the previous group, still persisted. Three of the farms lacked all essential physical assets and a further three, despite being connected to the electricity grid, were not utilising it because of high costs. More importantly, a lack of financial capital to enable them to invest in improving productive capital was a clear barrier to them moving beyond petty commodity production. Despite selling a larger number of animals relative to the subsistence farmers, this group still marketed irregularly, mostly in response to a cash need, hence a sizeable part of their income still remained social grants and remittances, with three also selling wool once annually. Three of the farmers also occasionally leased out part of their farms for extra income. None of the farmers had any form of insurance and two farmers had unsuccessfully applied for loans. The critical limitation insufficient financial capital imposes in preventing these petty commodity producers from expanding their production is illustrated by Case 2:

Case 2—Supplementing on-farm subsistence with increased livestock sales: Farmer Gundla previously owned 15 mixed breed cattle and 22 mixed-breed sheep in Ncorha communal area, with access to 3 ha of arable land. He engaged in maize and vegetable production using the local irrigation system and a hired tractor, which he sold locally to augment income from his pension and other social grants. The farmer sold one bull and two sheep in 2001, before individually accessing a farm in 2002 through LRAD. The 369 ha farm, located only 15 km from Elliot, had electricity but the farmer could not afford the ZAR 12,000 (USD 648) monthly bill. The farm had a partial external boundary fence and was partly divided into three paddocks. It had two functional dams and make-shift cattle handling facilities. The farmer had 48 cattle and 87 mixed-breed sheep. As with other committee members in their cooperative, the farmer had received 19 cattle through the AsgiSA livestock scheme and fencing from DRDAR. The farmer maintained 12 of the cattle at his former communal area, and utilised the communal shearing shed there for wool production. He produced rainfed maize on five ha of the farm to supplement his animals, hiring a tractor from the neighbouring cooperative. The road to the farm was inaccessible during the wet season. The farmer owned an old truck he used to transport livestock for sale to local markets. The farmer sold several livestock during most years, particularly when a need arose. For example, he sold three cattle at ZAR 7900 (USD 427) each and 17 sheep at ZAR 1300 (USD 70) each in the informal market, and one cow for ZAR 5800 (USD 313) into the formal market in 2016, in a once-off transaction to finish constructing a house on the farm. The farmer had unsuccessfully applied for a bank loan. He recorded no extension visits in 2016 and was not formally trained in agriculture. The farmer still relied primarily for his livelihood on social grants, as he only sold animals, particularly sheep, to cover urgent capital cash needs. When asked why he did not sell more livestock and begin to accumulate and produce beyond subsistence farming, the farmer said:

“My cattle are of mixed breed, the local abattoir that has a ready market does not buy them at a good price, if at all. I do not want to change to these new breeds, they need more care and money, which I do not have. Most of the ones I got through AsgiSA died, and I am still paying for them. It is a risk.”

3.8. Small-Scale Commercial Producers

The analysis also identified a group of 12 farmers where a clear livelihood trajectory from subsistence farming into small-scale commercial production was apparent, such that their livelihoods now depended primarily on sales of crops and livestock (Table 2). The farms accessed by these small-scale farmers averaged 416 ha (range 343–510 ha) in size and

were located at an average distance of 14 km (range of 8 to 21 km) from Elliot. To a lesser extent they were still subject to some of the same problems with physical infrastructure affecting the subsistence farmers, particularly with respect to fencing, electricity and dams, but these farmers had considerably larger mean livestock holdings of 133 (range 46–150) cattle and 216 (range 84–564) sheep. This was mainly facilitated by their greater ability to access financial capital. To maximise productivity, they also capitalised on former social networks, producing food crops (e.g., maize, potatoes and cabbages), livestock feed (e.g., lucerne and oats) and livestock in their former communal areas to spread risk, and developed new networks that enabled them to access physical infrastructure through their cooperatives [58]. They drew on these new social networks to help improve their understanding of market dynamics (human capital and capacity to learn), through which they refocused their on-farm activities towards sheep production and the production of specialised cattle breeds to market in the formal sector.

For this ‘middle’ group of 12 farmers, two main starting points for their livelihood trajectories were apparent, involving eight farmers who transitioned from the original 51 communal subsistence farmers and four farmers who transitioned from the nine expanding commercial smallholders (Figure 2). These trajectories into small-scale commercial production were strongly shaped by two key assets: financial capital and socio-political capital, drawn upon to varying degrees.

At one end of the spectrum were those farmers (three) who relied almost entirely on financial capital in the form of personal savings or acquired loans both to purchase their farms and subsequently invest in operating them. In some cases, these farmers were forced to purchase their farms after trying unsuccessfully to access them through LRAD. In others, the farmers only engaged with agrarian reform post-LRAD (after 2005), and not being keen on the PLAS leasehold approach (whereby government ultimately owns all improvements made to the farm by the leaseholder), opted instead to purchase their farms on the open market. All of these farmers also acquired additional financial loans to develop the physical infrastructure of the farm and invest in natural capital such as cattle and sheep. At least part of the reason for this was that they were insufficiently networked within their local cooperatives and could not draw on capital assets from these (i.e., could not effectively substitute social for financial capital). Instead, they could only make use of existing social networks in former communal areas, which could not provide the physical capital required for commercial farming. Moreover, by utilising such large amounts of their own financial capital or loans in this way these farmers had put themselves in a precarious financial situation, being vulnerable to risk from market failure and price volatility. They had to use the majority of their income from sales of crops (e.g., maize) and livestock to service their loans, which prevented them from reinvesting sufficiently in their farms, making them more vulnerable in the process. This was illustrated by one farmer thus:

“My pension was not enough, hence I took a loan to purchase the farm, which was valued at ZAR 900,000 (USD 48,600) at that time. I had to borrow more funds to start production at the farm. I took a ZAR 100,000 (USD 5400) from NERPO (National Emergent Red Meat Producers Organization) to purchase 22 Bonsmara; the AST programme loan to purchase nine Drakensberger cattle; a vehicle loan from West Bank; a Land Bank loan to purchase a tractor; and a loan to clear the farm fields which were infested with black wattle trees. Repaying all of these loans is a real challenge.”

Another group of four farmers was able to draw on a combination of both financial and social capital in making the transition to smallholder commercial farming. Two of these were subsistence farmers, who had to self-finance the purchase of their farms, after failing to qualify for redistribution through LRAD. However, their very strong social capital, represented by the connections they had built within their local cooperatives and close ties they retained in former communal areas, enabled them to access additional resources, thereby partially substituting for the financial capital required to invest in the natural and physical on-farm assets (see Case 3). A further two farmers, already with a stronger, expanded commercial footing, were in the opposite situation of receiving their farms

through LRAD but then having to rely mainly on loans they could raise against their farms and financial capital from other businesses to invest in making them productive.

Case 3—Moving from communal subsistence production to small-scale commercial production: Farmer Ramotshe grew up farming on a 2.9 ha plot in Cofimvaba, owning 14 cross-bred cattle and 32 Sheep. At 18 years of age, farmer Ramotshe found employment in Alberton, Johannesburg for 36 years. He utilised income from employment to buy sheep in the communal areas, and by 1995 when the farmer retired, he had accumulated 62 sheep. The farmer sold an average of two cattle and five sheep annually in the communal area. The farmer wanted his own farm but unsuccessfully applied for an LRAD grant and bank loan to fund this, eventually using his own savings to purchase the farm, which has placed the farmer under considerable financial pressure:

“One of the challenges is that the South African banks are not talking the language that we farmers understand. I banked with Bank X, but they had their technicalities and they eventually failed to finance me to purchase the farm for ZAR 2 million (USD 108,000). Instead I took all my savings and bought the farm. Then I was left with no money to make the farm productive.”

After accessing the farm, he increased his livestock holding to 62 cattle and 300 sheep. The farmer acquired 11 Bonsmara cattle from AsgiSA and nine Drakensberger cattle from AST livestock programmes. Farmer Ramotshe also demonstrated considerable initiative in forming a cooperative with farmers in his former communal area, through which he accessed three tractors (one from Eastern Cape Development Cooperation, and two from DRDAR). The farmer made use of these tractors to produce 120 tonnes of maize in 2016 on his freehold farm. The farmer earns income from sheep and maize sales made through a shop operated in Ngcobo, through cattle sales in the formal and informal sector and through wool sales. In 2016 the farmer earned ZAR 108,000 (USD 5832) from agricultural sales, which he reinvested in a second-hand truck, internal fencing and repairing the road to the farm. The farm has three functional dams and two perennial rivers but lacks electricity and irrigation equipment to utilise these for crop production. The limited farm infrastructure was identified by the farmer as an impediment to expanding production:

“The challenge is that the farms we received require a lot of work for us to begin to make it. This means the money we make goes into acquiring infrastructure, instead of expanding production. We still have a long way to go to become commercial.”

Finally, at the other end of the spectrum was a group of five farmers who were able to rely to a considerable extent on their social capital to make their transition into smallholder commercial farming. In the first instance, they were able to take advantage of either LRAD (three farmers) or PLAS (two farmers) to access their farms without financial cost. Interestingly, two of the farmers who accessed their farms through the LRAD process were already expanding commercial farmers with their own private farms and the other, although from a subsistence background, was well-networked politically underlining how LRAD was frequently taken advantage of by the more privileged. Subsequently, all these farmers were then able draw on their strong networks within cooperatives and/or in communal areas, to provide many of the physical assets required to run the farm. Case 4 illustrates the range of opportunities that some farmers can avail themselves of if they are sufficiently knowledgeable and networked. Nevertheless, it is important to emphasise that the productive assets received through cooperatives were not always adequate to meet all of the requirements for engaging in commercial production, and so most farmers still had to draw on some additional financial capital to expand their productive capacity. Thus, there continued to be some degree of financial risk carried even by this group and an inability to completely substitute social for financial capital by any farmer.

Case 4—Moving from expanded petty commodity production in communal areas to small-scale commercial agriculture: Farmer Thangwe worked in an agricultural bank for 16 years, while farming on a 15 ha communal plot in Mthatha, 12 ha of which he rented from other local farmers. The farmer owned an old tractor that he used to produce crops for sale locally.

He also had 17 cattle and 30 sheep, selling about five cattle and 10 sheep annually in the communal area. The farmer retired and utilised the networks developed through the bank to join Mthatha Farmers Union and later the provincial South African Farmers Union. The farmer engaged in petty trade in agricultural products and augmented household income through buying sheep locally and reselling them through links provided through union membership. He received a 510 ha LRAD farm in 2002, located 27 km from Elliot. The farmer became the chairperson of the cooperative his farm was part of, through which he accessed 30 cattle from AsgiSA and cattle handling facilities through DRDAR. The farmer increased livestock to 72 cattle, 164 sheep and 27 goats and utilised the cooperative tractor and equipment to produce maize and potatoes on 20 ha of the farm. The farmer continued to produce irrigated horticultural crops at his homestead in Mthatha using a small water pump (purchased through pension funds) and supplies to local schools and markets. He also acquired a small loan through which improved sheep breeds were purchased for the farm (e.g., Dohne Merino and Dormer). However, due to water and fencing challenges, the Lucerne crop that the farmer had established to supplement the sheep failed, and most of the improved sheep breeds did not survive. The farmer now buys the specialised breeds in from commercial farms in Dordrecht for resale, coupled with his mixed-breed local sheep trade in Mthatha. The farmer said:

“I want to improve my sheep breeds and production because I have noticed a market for sheep, I can make easier money. The major challenge with farming is liquidity, that is working capital when you need it. Sheep are easier to sell and get income quickly than cattle.”

Very shrewdly, during his tenure as the Land Reform Committee chairperson, the farmer made use of his understanding of the system, to turn the farm into a co-operative involving his son and daughter as co-managers. On this basis, the farmer applied for a RADP grant in 2011 through which he accessed 16 cattle, 92 sheep, a tractor and implements, a vehicle and stock fence. Farmer Thangwe is now marketing 19 cattle and 35 sheep annually.

Interestingly, the productive capacity (physical and natural assets) of all these smallholder commercial farmers is quite similar regardless of whether they started out as subsistence or expanded smallholder producers. As a form of basic comparison, the average farm size of the eight farmers transitioning from a subsistence background was 423 ha and they owned an average of 102 cattle (range 46–136) and 197 sheep (range 103–368), whereas the four farmers from an expanding commercial context had an average farm size of 402 ha and owned an average of 141 cattle (range 72–150) and 284 sheep (range of 162–564). Likewise, their levels of human capital in terms of the range of commercial farming skills they deploy are also comparable. The only real difference is that this latter group have made a smaller transition in developing the skills (human capital) required to be a smallholder commercial farmer and their reliance on former networks in communal areas is also diminished.

Thus, in terms of understanding the vulnerability of these farmers, the key issue does not seem to be the starting point from which they made their transition to smallholder commercial farming but rather the trajectory they have followed in realising it. Those who have had to exhaust personal reserves and/or accumulate debt to purchase farms and finance production have made themselves more vulnerable to external threats and shocks. Indeed, the latter group are in the unfortunate position of having to market produce simply to meet repayments and effectively ‘standstill’ financially rather than being able to accumulate and reinvest more effectively in their farms. In contrast, those who have been more effectively able to deploy their social capital to offset their financial investment in their farms are better able to buffer vulnerability not only by drawing on different capitals but by improving their self-organisation through using networks to gain access to key physical and natural assets.

3.9. Fully Commercialised Farmers

Although most of the five farmers in this category had some previous involvement with commercial smallholder production, they are in the unusual position of deriving a larger proportion of their capital from non-agricultural businesses. Based on this, we suggest that they have not necessarily 'emerged' as part of the land reform process from one social class to another, but rather were existing entrepreneurs who have simply used commercial agriculture as an alternative means of investing their financial capital (see [24]). They have developed strong buffer capacity by converting their non-agricultural financial capital investments into relatively low-risk natural capital in the form of large farms of between 491 and 1600 ha. They have also used financial capital to invest in a wide range of physical assets, including farm equipment such as vehicles and machinery, as well as infrastructure such as buildings and fencing. Importantly, this greater ability to invest in physical infrastructure compared to smaller-scale farmers has enabled them to realise the full productive potential of their farms. These farmers had mean holdings of 157 cattle and 298 sheep and were able to sell large numbers of livestock at good prices as well as producing large amounts of crops both for livestock feed and external sale (e.g., maize), which the other farmers could not. The buffer capacity afforded by their substantial financial capital has also enabled them to absorb in the short term any financial losses they have accrued through trial and error on the farm, using non-farm income. This has given them time to improve their commercial production knowledge over the longer term, for example, by developing specialised knowledge of production using improved, high value breeds of cattle and sheep, e.g., two farmers were stud breeders of Bonsmara and Simmental cattle, and one farmer specialised in breeding Dorset sheep. These farmers also had very strong self-organisation capacity, being socio-politically connected both within and beyond the cooperatives they belonged to and thus, very well-positioned to access the many different productive assets being made available to emergent farmers through government support schemes. However, we suggest that in accessing multiple resources using their strong networks within cooperatives, these farmers demonstrate elite capture and are in effect denying access to these resources by other, perhaps more needy, farmers in the same cooperatives, potentially exacerbating their vulnerability.

4. Discussion

Our findings demonstrate that agrarian reform beneficiaries exist as part of a continuum of class differentiation and have followed a diversity of livelihood trajectories, drawing on different combinations of capitals, to achieve their current class positions. At the lower end of the continuum are a large number of farmers who demonstrate little or no trajectory from a subsistence livelihood to small-scale commercial production despite access to private land. Here limited class differentiation is evident, the majority continuing to pursue largely subsistence-based livelihoods either on or off land reform farms, but a smaller number are beginning to engage in limited petty commodity production. They lack access to most capitals and hence have limited buffer and self-organisation capacity [67]. However, there is clear evidence of a smaller 'middle' group of farmers who have employed a wide range of different livelihood strategies to transition from communal subsistence production into recognisable forms of small-scale commercial production.

Given the recent emphasis within government policy in South Africa in making this transition, this analysis of how these transitions have been made, should provide a basis for understanding how best to support such farmers to be able to continue producing for commercial markets whilst buffering potentially increased levels of risk. Importantly, it will also enable broader reflections on the potential for those who have not been able to make this transition to do so, and how best to support those who are unlikely to make this transition at all.

4.1. Enabling the Transition to Commercial Production

The transition to commercial production amongst those farmers who have achieved it, has been broadly grounded in an accumulation strategy [46] or ‘stepping up’ [26,74,76]. Critical to this transition has been an ability to draw on combinations of financial and socio-political ‘connectedness’ at various stages to facilitate both the acquisition of their farm and the investment required to transition it into commercial production and then to complement this with the farming ‘know how’ (human capital) required to sustain this. Given the current focus of PLAS policy on farmers as tenants (rather than owners) of farms, there seems limited value in discussing the different ways in which farmers in our case study area took ownership of their farms under the previous LRAD framework. However, the examples do serve to underline that farm acquisition through LRAD was a very unclear process with little transparency in terms of why some farmers received farms from the state at little or no financial cost whereas others had to draw deeply on either savings or bank loans to achieve this. Thus, eliminating this lack of transparency is at least one achievement of PLAS, even if it creates a range of other issues associated with farmers now being tenants rather than farm owners [23].

Clearly, access to financial capital plays a critical role in the ability of farmers to transition into commercial production [77] and may become even more important in South Africa in the future as emergent farmers who do not wish to be subject to the tenancy constraints of PLAS attempt to purchase freehold farms. Indeed, of the 60 farmers in our study, only two had accessed their farms through PLAS, whereas the rest either accessed them through an LRAD grant or purchased their farms independently. The continuum evident in the agrarian reform beneficiaries involved in this study, from subsistence production on private land to fully commercialised production reflects an increasing ability to access financial capital. Indeed, even the majority of subsistence farmers who have remained on their farms have done so primarily by relying on existing (e.g., social grants) or new (e.g., leasing their land to others) streams of external financial capital to sustain on-farm livelihoods. This has been observed in other studies, e.g., [78] in Zimbabwe, [15] in Kenya. However, these small financial streams are insufficient to fully engage with commercial production, hence a lack of financial capital remains a limiting factor to their transition. This resonates with research findings across Africa [15,25,77–79]. However, the requirement to access financial capital in order to farm commercially has put many farmers in a precarious and vulnerable position, particularly those who borrowed large loans to purchase their farms as well to expand physical capital and production. The struggle with loans and indebtedness under agrarian reform has also been observed in Namibia [50] and Kenya [15].

Those emergent farmers who managed to strengthen their socio-political capital during or after their transition to small-scale commercial farming, were able to improve their capacity to buffer against shocks and stresses by at least partially replacing financial capital with social capital to access labour as well as physical and natural capital, primarily through cooperatives. This also gave them greater capacity to self-organize [67] as a way to buffer risk. Therefore, the ability to forge new socio-political linkages, in this case within cooperatives, seems to be a key step in the transition to commercial production amongst smallholder farmers, certainly if individual financial risk is to be minimised [80,81]. Occupying a position of power in the local cooperative hierarchy (e.g., being in the committee) determined the extent of resources accessed by several farmers. This was also determined to some extent by the cooperative that the farmers belonged to, with those belonging to cooperatives that had fairer resource distribution having a better chance of accessing resources [58]. It was also apparent that most small-scale commercial farmers still maintained strong links with their communal areas to try and minimise the risks they are exposing themselves to. Linkages with their communal areas provide a source of labour they can draw on when required and an informal market for livestock. However, it is clear that resources accessed through these social networks were rarely adequate on their own to expand productive capital to commercial levels, and hence financial capital remains key in making the commercial transition for the majority of farmers. The study did identify a few

farmers (e.g., Case 4) who have made it into small-scale commercial farming with relatively little financial outlay, by using the social networks available to them both in the commercial and communal environments to access and operate their farms. However, these are a very small group, most of whom benefitted from the vagaries of land transfer under LRAD, so it is difficult to view them as being entirely representative.

Human capital, particularly know-how about commercial farming and knowledge of 'systems', has also been key for many smallholder farmers in this transition. Many of the farmers who made the transition from subsistence into some form of commercial farming already had some background in petty commodity production in communal areas and brought these skills with them. Refs. [2,34,38,82] indicate that those already involved in communal petty commodity production are best positioned to expand their production through agrarian reform. However, most of them have subsequently acquired and utilised some form of agricultural education to improve these skills, described as 'knowledge identification capability' by [67] (p. 155), through a strong desire to learn. Agricultural knowledge was mostly acquired through short-courses and seminars organized by the cooperatives they were affiliated with. They have also actively developed their social networks through interaction with other farmers (peer-to-peer learning) within cooperatives to improve their farming knowledge. Refs. [83,84] argue that informal social networks between farmers are important platforms for knowledge transfer and exchange, which have potential to facilitate access to resources and link farmers' social capital to human and financial capital. This improved capacity to learn, instrumental in recognising threats and potential opportunities [67], is reflected in the more effective response of farmers to market dynamics. Two very good examples of this can be drawn from this study. Firstly, diversification by some farmers of the livestock breeds they held to include both indigenous and improved breeds in order to maximise market opportunity. Secondly, a greater emphasis on sheep production as they provide more opportunity for realising quick income returns in local markets and also an opportunity for income diversification through wool sales. Across Africa, several studies have indicated that small ruminants are better positioned to support poor livelihoods due to parasite and disease tolerance [85,86] and ability to perform in arid, low input environments [86–88]. They are also easier to sell providing a more effective credit and insurance buffer and minimising financial risk compared to larger animals [85,89–91]. All of these factors help to buffer the risk associated with the very considerable step from petty commodity production within a communal farming system to small-scale commercial farming on a private farm.

The importance of social, human and particularly financial capital combining to facilitate commercial production amongst these farmers is perhaps most clearly demonstrated by the small number of fully commercialised, entrepreneur or investor farmers [23,92–94]. Effective use of these capitals has allowed them to buffer risk and strengthen their capacity to learn, a process which has afforded them the flexibility to experiment and make mistakes whilst they are developing their farming knowledge without becoming as financially vulnerable as some of the smaller-scale farmers. Although they are not representative of a typical 'emergent' farmer, there are nonetheless key lessons in their approach that might be transferable to smaller scale farmers under appropriate circumstances. Indeed, given the ability of these elite farmers to access capital from other enterprises and their strong external networks and knowledge of commercial production, it might be possible to encourage them to play more of a supportive than extractive role within cooperatives. Two possibilities would be mentorship of smaller-scale emergent farmers and facilitating improved resource access within cooperatives by strengthening connections to government and third sector programmes of agricultural support. The importance of the latter has already been extensively discussed in [58]. It might also require a strengthening of their managerial capacity [95], enabling them to be downwardly accountable in disbursing resources.

4.2. *Overcoming Barriers to Transitioning out of Subsistence Production*

With only their previous communal social networks to draw on, limited financial capital and knowledge of commercial farming, and limited natural and physical capital on their farms, it is unrealistic to expect that the majority of subsistence farmers on private land can transition to commercial farming in the short term or, indeed, wish to. Whilst their farms clearly provide an important asset that helps them to buffer risk, these limitations prevent the value embedded in the natural capital within their farms from being fully unlocked. Similar outcomes have been observed from agrarian reform activities in other parts of Africa, e.g., [75] in Zimbabwe and [15] in Kenya. Due to limitations in the capitals necessary to facilitate on-farm livelihoods these emergent farmers fail to accumulate, and instead rely on alternative off-farm financial capital [15], mainly in the form of social grants, remittances and renting out part of their land. For the majority of subsistence farmers in this study, using these alternative sources of income as the basis of their livelihoods, augmented by opportunistic livestock sales from their farms affords them some stability, certainly more so than attempting to rely primarily on livestock sales as their main source of income. Arguably such an approach can form the basis of a resilient livelihood strategy [46,75], and finds parallels in the case of former farm labourers in Zimbabwe outlined by [49] (p. 18). However, it does little to support the productivist focus of agrarian reform strategies such as LRAD and PLAS or create the commercialised black smallholder class to realise this. As [52] argues, approaches that are aimed at fostering food security and increasing resilience are more appropriate for many smallholder farmers, rather than simultaneously aiming to improve their engagement with commercial production.

Nonetheless, over the longer term there remains the potential for some of these farmers to begin the process of accumulation, and in so doing make the transition to petty commodity production if they are properly supported. Part of this will be supporting them to forge and draw on new socio-political capital and networks more effectively. This is clearly very difficult where farms are located a long distance from markets, linked by poor access roads and border communal areas, making them prone to incursion and livestock theft. Arguably, dislocation from communal social networks and an inability to forge networks with new communities adjoining farms are critical barriers to achieving this and only encourage farm abandonment. Clearly, even within the current PLAS model there is a role here for government in addressing this as part of the resettlement process, by trying to ensure that more vulnerable farmers are allocated farms as close to their previous communities and as near to road networks as possible. There is also a role for local cooperatives in facilitating knowledge exchange between farmers, particularly in brokering mentoring relationships between these farmers and those with a greater commercial focus. It is also vital that local cooperatives work to ensure a more level playing field amongst their membership, such that service delivery and assistance with physical and natural capital is also provided to more vulnerable farmers [58]. Critical to this will be finding a way to address the problem of capture of resources by those farmers who are more commercially active. Furthermore, addressing the currently poor rate of engagement with funding programmes by cooperatives will also be key in improving their service delivery to farmers. For example, only eight percent of agricultural co-operatives were recorded as having accessed funding from the Department of Agriculture, Forestry and Fisheries in 2010 [96].

For the few subsistence farmers who are already engaging in petty commodity production, it is equally important to identify the barriers to moving to greater levels of commercial production. Whilst the evidence in this study suggests that access to larger pieces of land through agrarian reform is an important factor in expanding livestock productivity, persistent barriers to market entry mean livestock cannot be easily converted to other forms of assets to support livelihoods [74]. Limited physical and financial capital mean these farmers will continue to focus on hardy indigenous breeds, which are not suitable for the formal market. Poor market infrastructure and long distances to markets also inhibit marketing opportunities [79], important in supporting commercial production.

More broadly, refs. [52,97] argue that the economic, food security and poverty alleviation potential of redistributed farms cannot be predicted based only on access to land or its agroecological context suitability. Rather, achieving these depends on appropriate resourcing and capacitation of farmers to improve agricultural productivity. As part of this, the emphasis for smallholder development should be on understanding the conditions that are necessary to achieve these goals, and whether they should be achieved simultaneously, or in succession. This underlines a clear need for investment in resources beyond just provision of land to support the transition of smallholder farmers to commercial agriculture and food secure outcomes [52,54]. Without these challenges being addressed, the potential to utilise the formal market will remain beyond the reach of most emergent farmers.

Finally, it must also be acknowledged that some farmers simply may not want to take the next step to produce at a commercial level. The aptitude or willingness to engage with alternative production strategies is shaped by market incentives, risk mitigation and complex human and social capital factors such as knowledge, networking, community values and culture [22]. As [17] (p. 159) suggest, 'research needs to understand local determinism: maybe not every smallholder will want to be a commercial farmer'. Emerging behavioural economic and decision science in micro-development studies argues that policy should put stronger emphasis on enabling conditions for smallholder farmers to shift their perspectives beyond a 'smallholder-mentality' and localized food security, rather than only focusing on technical aspects, to facilitate transition to commercial agriculture [54,98].

5. Conclusions and Recommendations

Our analysis suggests that relatively few land reform beneficiaries in this case study have made the transition to a recognisable form of commercial livestock production. Whilst this is not unexpected, it does raise important questions about if and how agrarian reform policy should be refocused to support not only those who have made the transition, but also those who are unlikely to demonstrate any significant transition out of subsistence production.

Firstly, what lessons can be drawn to better inform current policy on fostering an emergent farmer class? In addressing this, it is important to understand what characterises those farmers who have made the transition. They clearly all demonstrate an overarching desire to farm, evidenced even in a communal setting, for example, by prior engagement with petty commodity production and associated development of human capital. However, this in itself is clearly insufficient. Regardless of their starting point, all the farmers we identify as making this transition have been able to rely on substantial financial or social capital, or more likely, combinations of both. It is this capacity, in conjunction with knowledge of commercial farming, which enables access to the physical and natural capital required to farm and in turn unlocks the economic potential of the land. However, it also important to emphasise that for many of these farmers their trajectory into commercial farming determines their subsequent vulnerability to short terms shocks and stresses. Importantly, it is the need of most small-scale commercial farmers to access financial capital that frames both their farming capacity and potential vulnerability. Arguably, many of these farmers are now in a more vulnerable position than either those who have remained as subsistence farmers on private farms and limited their exposure to financial risk, or those investor farmers who can buffer risk using capital from other businesses. If these small-scale commercial farmers are to succeed, it is therefore imperative that alternative, lower risk models of agricultural finance aside from the open market, are embraced by government. Several, such as the Land Reform Fund [39] have been tabled but appear to be meeting with resistance.

Secondly, agrarian policy must be refocused to also support the many existing land reform beneficiaries who will likely not transition into commercial production, whether by default or desire. It is therefore vital that policy recognises the considerable differentiation that exists between emergent farmers [24] and tries to tailor support appropriately. On the one hand, this will require a greater focus on petty commodity producers of the

type identified in this study, and how to better support them to sell and produce into formal, commercial markets. Here there is undoubtedly a role not just for government but also third sector organisations through, for example, livestock auctions [38,71,99]. On the other hand, it will also require a pragmatic approach to supporting many emergent farmers on private land to consolidate and derive resilient livelihoods from what are effectively subsistence modes of production, rather than encouraging them to adopt a more commercial focus. This will require a much broader policy focus for emergent farmers that places greater emphasis on livelihoods and minimising vulnerability. Critical to this will be a recognition of the multi-stranded nature of their subsistence livelihoods and how state support can most effectively dovetail with this. All of this finds resonance with current debates regarding who should be targeted by agrarian reform; whether land reform should redistribute smaller pieces of land to those that are looking to engage in secure subsistence livelihoods; and the most appropriate approach to achieve this [1,18,39]. Much rests on the government's willingness to rethink its alignment to the current neo-liberal land reform agenda and to begin to more effectively balance livelihood security with commercial production.

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