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Changing Livelihoods and Landscapes in the Rural Eastern Cape, South Africa: Past Influences and Future Trajectories

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Abstract: This paper seeks to understand the drivers and pathways of local livelihood change and the prospects for transformation towards a more sustainable future. Data are used from several studies, and a participatory social learning process, which formed part of a larger project in two sites in the Eastern Cape, South Africa. Secondary information from a wealth of related work is used to place our results within the historic context and more general trends in the country. Findings indicate that livelihoods in the rural Eastern Cape are on new trajectories. Agricultural production has declined markedly, at a time when the need for diversification of livelihoods and food security seems to be at a premium. This decline is driven by a suite of drivers that interact with, and are influenced by, other changes and stresses affecting local livelihoods. We distil out the factors, ranging from historical processes to national policies and local dynamics, that hamper peoples' motivation and ability to respond to locally identified vulnerabilities and, which, when taken together, could drive households into a trap. We end by considering the transformations required to help local people evade traps and progress towards a more promising future in a context of increasing uncertainty.

Keywords: livelihoods; farming; traps; transformation; South Africa; landscapes; poverty; change; multiple stressors; Eastern Cape

1. Introduction

Many parts of the world are facing accelerated change, rising insecurity and vulnerability, and greater uncertainty brought about by a multitude of interacting drivers and shocks ranging from global economic downturns to growing corruption and weak governance, escalating poverty and food insecurity, failing health systems under pressure from epidemics such as HIV/AIDS, and extreme weather events [1,2]. At the same time, the longevity of the goods and services provided by the planet's ecosystems is questioned [3]. These global risks and changes interact with, and may be compounded by, country-level structural, economic and political processes that create and sustain inequities. The effects of these global-and national-level interactions are also felt in localized contextual dynamics, manifesting in institutional breakdown, crime, landscape modification through changing land uses, declining agricultural production, land degradation and biodiversity loss [4].

A case in point is the agrarian change in the Eastern Cape, South Africa that has been taking place over several decades. The present day landscape has been largely shaped by discriminatory apartheid policies that placed most of the land in the hands of white commercial farmers and systematically undermined peasant production amongst black farmers in the Bantustans [5]. However, despite this history, and up until relatively recently, farming continued to provide an important source of livelihood and food security for black rural families. Many people in the rural communal areas of the country identified themselves as “farmers”, undertaking both arable and livestock farming. However, more recent work, especially in the Eastern Cape, has suggested that farming, particularly extensive arable production is declining and either shifting to more intensive cultivation of home gardens or being abandoned altogether [5–14]. The trends also suggest a reduction in livestock ownership and numbers, although this change is not as striking [13–15]. Such adjustments in agricultural production are influenced by, and interact with, many other trends at a variety of scales. For instance, under global climate change, the region is projected to become hotter and drier, facing more droughts and, ironically, more severe and frequent floods [16]. These climatic changes are superimposed on a suite of other stresses impacting local livelihoods and human well-being [17,18]. Short-term shocks, such as death and illness in the household, job loss, hunger, violence and crime, often arise as a consequence of longer-term “background” shifts, which, we argue, are fundamentally altering local social–ecological systems. Examples of these “slow variable” background changes include the systemic effects of HIV/AIDS on household structure and assets [19–21], urbanization and changes in demographics, household structure and relations, and values.

For many of the progressive changes observed (such as agricultural decline), no clear trajectories into the future are evident, with short-term stressors working in synchrony with longer-term change to create feedback loops that are potentially leading to increasing vulnerability and food insecurity [22,23]. We, therefore, argue that the legacy of deprivation and neglect in South Africa's rural communal areas, combined with more recent changes that decrease flexibility, diversification and local agency, as well as exposure to increased risk, may lock some households and communities into situations that prevent innovation and response. Such situations are often viewed as being “stuck” or in a trap [24]. It is in these contexts that the possibility of transformation becomes crucial. New policies and actions will need to be put in place to protect and support vulnerable people, and innovative practices or different “ways of doing” need to be developed and implemented. This approach requires recognition and understanding of the

changes taking place, the drivers of these changes, and the various factors that may hinder people's ability to accommodate or respond to change.

In this paper we consider changes in ways of life in two marginalized rural areas of the Eastern Cape and investigate how interactions amongst these changes and their drivers emerge and impact on livelihoods and current and future vulnerability. To assemble a holistic and composite picture of the complexity, dynamics and heterogeneity of local livelihoods, and to tease out the multiple factors across scales that drive the observed trends, we synthesize findings from several specific sub-studies conducted in the same sites, and then situate these findings within the relevant literature. Our aim is to investigate changes in livelihoods and landscapes in the Eastern Cape and consider whether some households, through combinations of shocks and long-term stressors, may be trapped in situations that prevent them from responding to vulnerabilities and, thus, to securing resilient livelihoods. We specifically seek to understand how historical processes, national policies and contemporary local dynamics have affected current livelihood portfolios and the capacity to adapt to change, particularly in relation to future climate change. We argue that with an improved understanding of these processes, transformative policies and strategies may be better developed to avoid traps and facilitate more promising futures.

In the next section, we describe our research approach and its theoretical underpinnings. We then present key findings, which identify large changes in the nature and structure of livelihoods and landscapes that have occurred in our study areas, and suggest reasons behind these changes drawing on both our own research and other studies and sources. Next, we consider a number of features of the broader political and socio-economic contexts that have also contributed to, and resulted from, these livelihood changes. We conclude with policy considerations regarding transformations and potential future trajectories that could assist rural Eastern Cape households evade traps and make choices regarding their livelihood strategies, including engagement in arable production.

2. Study Sites

We selected two sites for the project: Gatyana in Mbashe Local Municipality and Lesseyton in Lukanji Local Municipality in the Eastern Cape Province, South Africa (Figure 1). The study sites were chosen to correspond to a gradient of increasing rainfall and decreasing accessibility to urban amenities and markets. Each site consists of multiple villages, with the boundaries of these being less clear-cut in the Gatyana site due to the scattered nature of homesteads. The inland site, Lesseyton, is 20 km from the city of Queenstown. It falls at the intersection of the Grassland and Thicket biomes [25] and has a mean annual precipitation of between 350 and 500 mm. Homesteads are built in a typical village layout and generally have only a small garden space for vegetable cultivation. However, there is access to communal land, which is used primarily for grazing by livestock owners. The coastal site, Gatyana, is more isolated and is about 30 km from the small town of Willowvale. It still lags behind in infrastructure such as tarred roads, and has marginal local markets and poor transport systems. Most homesteads are widely dispersed with large plots of land (half a hectare or more). The site crosses two major biomes, the Indian Ocean Coastal Belt Forests and Savanna, and receives a mean annual rainfall of between 950 and 1100 mm [25].

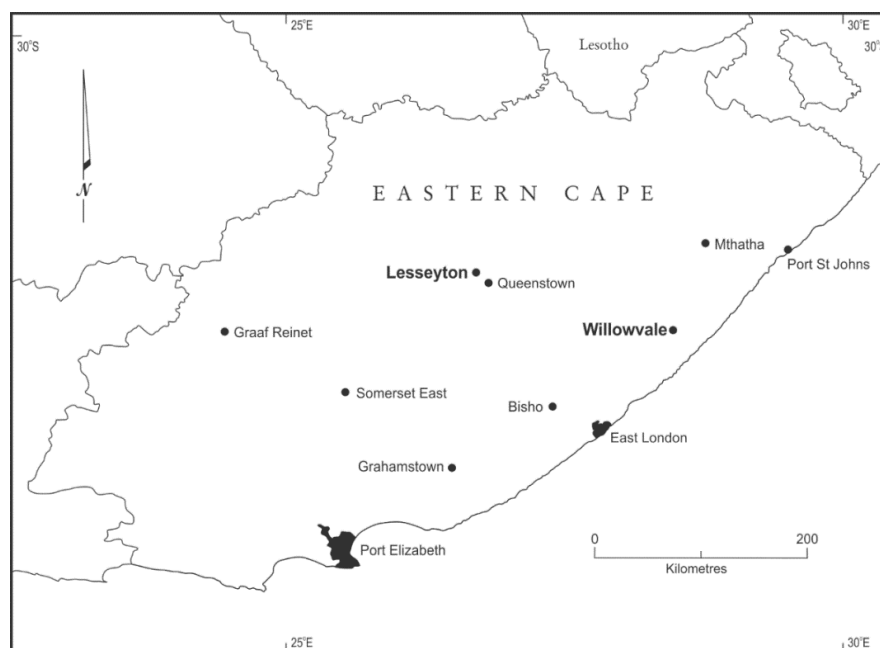


Figure 1. Map of the Eastern Cape, South Africa showing study sites.

3. Approach and Methods

To construct an integrated and cohesive understanding of the complex livelihood and landscape changes in our study sites, and to analyze the drivers behind these changes, we draw on and synthesize findings from a mix of separate sub-studies (five in total from Honors undergraduate to PhD level) conducted as part of a larger project funded by the International Development Research Centre (IDRC) [26–31]. Using livelihoods and assets-based approaches (guided by the sustainable livelihoods framework and the concepts of vulnerability and multiple stressors), this project sought to explore how climate change, together with several other livelihood stressors including HIV/AIDS, affect vulnerability, food security, livelihood strategies and choices, adaptive capacity and coping, adaptive and transformational responses amongst different types of households.

The data presented in this paper are mainly derived from unpublished Masters theses and draw heavily on the baseline household survey used by several students. This survey was administered in 2011 and 2012 to 170 randomly-selected households at each site (total $n = 340$). Questions related to livelihood and income sources were repeated an additional two times at six monthly intervals to capture seasonal differences. The data presented here are averaged across the three rounds. Data collected included information on household demographics, health and HIV/AIDS proxy indicators, assets, welfare perceptions, shocks and responses, livelihood activities and household income in cash and kind [30]. We interviewed heads of households or the next most senior adult. Men often left the interviews to the women in the household. For some analyses, we disaggregated the data by gender structure (based on the sex of household head and adult members) and wealth categories (see [32]). These data provided a holistic picture of household income shares, livelihood activities and community and household assets.

In addition to this quantitative data, we use qualitative data from a study by Clarke [26] on responses to climate change and HIV/AIDS amongst vulnerable rural households, in which she undertook 20 life histories. Five main “themes” were used to guide the interviews: (1) general household information such

as who lived there, and what household members did for a living; (2) the village's history, and any changes that occurred over the period of the household's residence; (3) the respondent's personal life story from growing up with their parents to the present, focusing on the hardships they experienced and the specifics of how they and their family coped with these hardships; (4) the respondent's main concerns for the future; and (5) the types of support the respondent felt were needed in their community. Each interview was primarily conducted and recorded in *isiXhosa* and later transcribed and translated into English through a translator. The findings were systematically analyzed using a software package for textual analysis called MAXQDA. A coding system was created using the following categories: vulnerability (changes, shocks and stressors experienced), responses (responses made towards shocks and stressors), assistance (help received), health (shocks and stressors related to health), climate, farming, and natural-resource use (climate-related changes, shocks and stressors experienced), and future concerns (future shocks and stressors interviewees were concerned about, as well as what support they felt was needed). The text retrieval option allowed specific categories and study sites to be analyzed separately. These broader categories gave rise to more specific themes such as unemployment, social-grant dependency, and crime-related shocks and stressors. Here, we extract representative quotes from the life histories as supporting evidence for the changes and vulnerabilities emerging at the local level. These provide insight into local, lived experiences of vulnerability and change.

Participatory mental maps were constructed at both sites to record the stressors believed by local men and women to be creating vulnerability, and their perceptions of the linkages between these [26]. We held four small focus groups (4–8 participants each) with men and women separately, with each group creating their own mental map. Mental maps are “qualitative representations of a system consisting of variables and the causal relationships between them” [33]. For our study, these took the form of a spider-gram drawn on large sheets of paper, with key stressors being linked via directional lines. HIV/AIDS was suggested to participants as an initial item, to which they added the various cause and effects of this disease. Respondents then added further stressors and drivers of change and began connecting these with what was already on the map, until they felt they had exhausted all the key factors contributing to their vulnerability. All links and decisions were discussed within the focus groups. These maps provide a rich interpretation of the local drivers of vulnerability and their impacts on people's lives. In addition, to obtain the perspectives of the youth on local vulnerabilities and concerns, participatory workshops were held with mixed groups of grade 11 learners in each site (20 learners in Lesseyton and 53 in Gatyana). These scholars discussed and tabulated their viewpoints related to the past, present and future of their area.

For data on agrarian change, we draw on the published results of Shackleton *et al.* [14], which investigated farmers' opinions of landscape change, ecological succession in abandoned fields, and changes in land-cover categories. In addition, we report on unpublished research undertaken in 2013 and 2014 by Shackleton and colleagues on arable production in the Eastern Cape. To assess broad trends in landscape use and land-cover change, 1961 aerial photographs were compared to 2009 photographs by means of randomly selected sample plots (50 m × 50 m). Eight hundred forty-four plots were sampled on the 1961 photographs and 949 on the 2009 photographs, representing approximately 5 percent of the study area. Each plot was categorized by its dominant land use or land cover, *i.e.*, abandoned garden, abandoned field, current field, current garden, forest, woodland, and grassland. In May and June 2012, a household questionnaire was administered to 31 current and 50 former field cultivators to solicit views on changes in land-use practices, including causes and what happens to abandoned fields. A snowball

sampling approach was adopted to identify households in each category. To obtain an adequate sample, 38 villages within the wider Gatyana area were surveyed. For the more recent research, we conducted follow-up, in-depth interviews with the same cultivators in October 2013. Some had already ceased cultivating their fields. Furthermore, we undertook a separate survey of 90 randomly-selected households in two villages in the study site regarding cultivation of home gardens. Key data collected related to cultivation and garden details, the reasons for gardening, what garden inputs were used (for example manure, fertilizers, compost and labor), methods of plowing, seasonal determinants, changes/trends in gardening, challenges involved, estimations on yields and sale of crops.

These research results are complemented by the outputs of a parallel, participatory social learning and knowledge exchange process at both study sites, which provided in-depth insights on key research themes [34]. This process, which took place over three years, involved mixed groups of 10–15 people and commenced at the same time as the household survey. We aimed to build problem-solving capacity and strengthen local practices that had evolved in response to multiple stressors. In some of the foundational meetings, we asked participants to share stories of vulnerability and changes in their communities and lives based on their first-hand experiences. Participant conceptualizations of vulnerability and change covered shocks and stressors (drought, illness), “community problems” (truancy amongst the youth, crime, rape of women and girls) and structural aspects such as poverty, poor education and unemployment. The entire process is documented in a handbook [34].

Also important for our analysis are other complementary research findings from the Eastern Cape and various critical commentary papers on higher-level trends and processes in the country. We use this literature to support and contextualize our findings and to explore underlying drivers.

4. Conceptual and Analytical Lens

Our analytical approach to considering past influences and future trajectories is informed by the concepts of transformation and traps that have been developed in the social–ecological systems literature. In this literature, transformation is generally defined as “the fundamental alteration of the nature of a system once the current ecological, social or economic conditions become untenable or undesirable” [35] or a “profound, substantial and irreversible change” [36]. While transformation may be spontaneous or planned, the process often implies conversion to a better or more beneficial state [37,38]. Consequently, it can take on a normative and deliberative dimension. The normative nature of transformation can lead to ethical concerns related to what constitutes a more beneficial state, for whom, at what scale and who determines this. In the climate change literature, the IPCC uses much the same definition, though alterations in various sub-systems are emphasized, including value systems; regulatory, legislative or bureaucratic regimes; and financial institutions and technological or biological systems. Other climate change researchers prefer the term “transformational adaptation”, where the distinction between adaptation and transformation is less clear cut, with transformation being related to the scale, intensity and novelty of adaptations made [39–41]. Transformation is said to occur within social–ecological systems when principal members of these systems change core functions through collective action and institutional change (coordinated and uncoordinated action) and from the accumulation of numerous smaller, often behavioral, changes made by individuals. Transformation can also occur through changes in policies and governance, institutions, livelihoods, landscapes, farming systems, locations or identity [36,40]. From

this perspective, transformation is, thus, both similar to, and different from, adaptation. In contrast to adaptation, which refers to small, incremental responses to risk and change that keep a system in the same state, transformation is conceptualized as being required when human-environmental systems or components of these are over-whelmed or trapped and a complete shift is required [39]. However, transformation is rarely a discrete event—it often emerges messily over space and time through a series of smaller transformations [36]. We argue in reality the distinctions between these concepts become blurred when faced with the variety and complexity of conditions influencing livelihoods and their development, particularly given the lack of clarity and the uncertainty regarding future development directions and pathways and the normative nature of transformation.

Transformation may be hindered by traps, but, at the same time, transformation is generally required to escape traps. Traps are seen as negative states and are often the outcome of multiple and accumulative barriers to action that prevent or block the ability of people to transform the way they live. Several types of traps are recognized in the socio-economic ecological resilience literature: poverty traps, rigidity traps, and locked-in traps [24]. These traps convey different meanings for different disciplines, but simply put, they imply a situation of “being stuck”, often in a dysfunctional or degraded state, and being unable to respond to shocks and changes. In the resilience community, a poverty trap embodies the loss of options to develop or deal with change [24], and represents a condition that inhibits positive responses to a stimulus. Such a trap requires external support to escape [24]. Similarly, rigidity traps can equally prevent a shift towards upwardly mobile trajectories; they represent a system in which the members of organizations and their institutions become highly connected, rigid and inflexible and resist change [24]. This rigidity constrains the ability to respond to new problems and opportunities [24]. Locked-in traps are similar [42]. Walker and Salt [43] argue that to avoid being trapped on an unacceptable trajectory that is difficult to escape, it may be necessary to facilitate almost continual transformational change. This depends on creating new opportunities that, in turn, are dependent on internal sources of resilience and adaptive capacity, and various forms of external support [44]. Various structural (legacy of Apartheid), cognitive (forms of denial), normative and cultural (conformity, traditions, place), and behavioral factors can create path dependence and keep people (or certain groups of people) and systems in these traps. Path dependence occurs when the legacy of past events, states, decisions and actions affect current dynamics and future changes through reinforcing feedback mechanisms and entrenchment of particular self-reproducing institutional arrangements [42,45]. This makes it difficult to divert the system to a new course [46]. In our case, the notion of path dependence helps us to understand the long-term consequences of separate development (under the Apartheid regime) in our study sites.

The starting point for our analysis (below) is to describe the changes in livelihoods and landscapes that have occurred in the rural Eastern Cape. However, surrounding this change, our research identified important past and current contexts that have created several types of interlinked shocks, stressors and other factors that could act as barriers to livelihood improvement, both now and in the future, for certain groups of people. All of these are closely associated and often mutually reinforcing, together creating a situation that resembles aspects of both poverty and locked-in traps. However, some of the changes also have positive dimensions that need to be considered and weighed up against any negative aspects, with social grants being a particular case in point. The primary changes are described below with supporting evidence from both our own research and the literature.

5. Results and Discussion

5.1. Changing Livelihoods and Landscapes

5.1.1. Shifting Livelihood Portfolios

Land-based income (from crops, livestock, and natural resources) makes up, on average, only 15–25 percent of livelihoods in the Lesseyton and Gatyana sites, respectively (see Figure 2). The cash income received from employment (formal, small businesses, casual labor and remittances) is of a similar magnitude, but reversed, with the more rural site receiving 16 percent of their livelihoods from employment activities, while households in Lesseyton receive 29 percent of their income from these employment sectors. The overwhelming source of income for both sites comes from social grants that make up over half of income.

The snapshot of income shares (see Figure 2) is the result of ongoing processes, detailed below, which have caused land-based and employment incomes to decrease, while reliance on social grants has grown (also see [7]). These changes represent a narrowing of livelihood activities/options and a reduction in the use of local landscape resources as a basis for livelihoods and as safety nets needed in response to shocks. In the next three sections, we consider trends within each of these sources of livelihood and the important contexts and underlying causes for such changes through analysis of the broader literature.

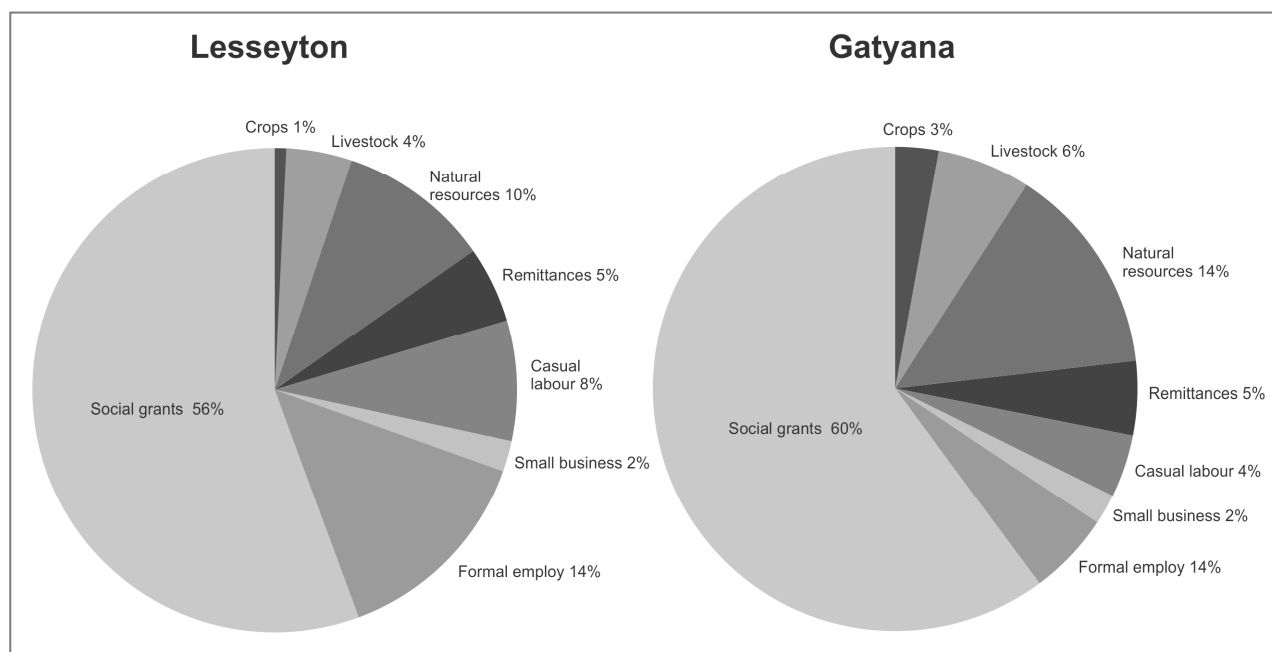


Figure 2. Average income shares from different livelihood sources across all households (n = 340) in Lesseyton and Gatyana (Source: Stadler 2012, unpublished thesis [30]).

5.1.2. Abandonment of Fields and a Decline in Livestock Production

Results from our study sites show that cultivation forms, on average, only between 1 percent and 3 percent of total household income in Lesseyton and Gatyana respectively (Figure 2). This is a substantial decline relative to the past (*i.e.*, from greater than 20 percent of income in 1950) [12], and is reflected in

changes in the landscape, especially the increasing area of abandoned fields. This field abandonment and decline in arable farming for both cash and subsistence purposes has been happening over several decades and can be viewed as a social–ecological transformation in itself (Table 1) [12,14,28]. In the Gatyana study site, landscape change over a 50-year period involved mainly a decline in cultivated fields and an increase in woodlands, primarily due to the establishment of the thorny, pioneer species *Acacia karoo* in old lands (Table 1). The encroachment of woody vegetation into these areas acts as a barrier to their future cultivation.

Table 1. Landscape change in Gatyana over a 50-year period.

Aerial Photography Analysis of the Gatyana Landscape over the past 50 Years (1961–2009) has Shown:	
• Reduction in cultivated field cover from 12.5% to 2.7%	• Increase in woodland from 13.9% to 28.8%
• Increase in abandoned field cover from 1.5% to 6.9%	• Increase in forests by 5%
• Reduction in grassland of 22.5%	• Increased abandonment of home gardens, but less than abandonment of fields

Source: Shackleton *et al.* 2013 [14].

Many researchers have argued that this move away from agriculture started in the 1940s (or even earlier as discussed by Hebinck and van Averbeke [47]) with the concentration and relocation of people into the Bantustans, and a deliberative process of “depeasantization”. This was expedited through the creation of “labor pools” to supply the mining industry and the marginalization of black farmers, while white farmers were heavily subsidized [8,47]. At the same time, the policy of so called “Betterment” that placed people in villages and zoned land for particular uses, served to separate and distance households from their fields and contribute further to their disuse [7,8,14,47,48]. However, some farming still continued, facilitated by income from jobs in the mines, which in those days could mainly be sent home because accommodation (in hostels) and transport were provided by the mining companies [47,49].

The greatest levels of field abandonment have occurred in recent years, with Shackleton *et al.* [14] finding that most of the past farmers interviewed in Gatyana had stopped farming on distant fields, on average, about 18.5 years ago. This timing coincided with the democratic transition and an increase in social welfare [5,50], as well as changes in the process of “formal” migration of mine workers, which has now ceased [50]. Other drivers and reasons given for the decline in agriculture include: lack of access to markets; exhausted soils; unpredictable weather; lack of labor; poverty and lack of access to credit; infrastructure decline, especially fencing and roads; destruction of crops by cattle and wild animals, related to both the former and to the loss of child labor for herding; a decline in farming knowledge; and institutional factors that prevented the emergence of a land rental market [5,6,14,47]. Regarding the latter, Kepe and Tessaro [5] argue that a lack of land rights in the rural communal areas of South Africa has limited the implementation of agricultural programs devised by the state because *de facto* owners simply do not trust anyone else to cultivate their land in the absence of secure tenure. Livestock production has also declined (attributed locally to disease) and become more asymmetrical, although to a lesser extent than arable farming [6]. Indeed, the lack of cattle for draught has been given as another reason for the decline in cropping [6,14,48,51].

Despite the substantial decline in field cultivation, households are still planting so called “home gardens” (fields attached to homesteads), especially in areas like Gatyana where residences are scattered in the landscape and plots can be up to one hectare in size (in Lesseyton this is not the case, and there is little home

gardening). Andrew and Fox [6] contend that in the coastal areas of the former Transkei (known as the Wild Coast and of which Gatyana is part), there has, in fact, been a shift from field to homestead cultivation. Our research into the extent and use of gardens shows that most households have gardens, although they may not cultivate them annually. Women (63 percent) are mainly responsible for managing these home gardens and for making cultivation decisions. Constraints to gardening mentioned included financial (mentioned by about 40 percent of respondents), biophysical (weather, pests, water, soil fertility, fencing and draught power, with at least one of these being mentioned by most respondents) and lack of labor and disinterest among the youth (46 percent). When asked about trends, the majority of households interviewed felt that garden cultivation was declining, with 46 percent saying the greatest decline had been in the last fifteen years. This was also reflected in the land use change data (Table 1).

Given the declines in extensive arable agriculture and to a lesser extent home gardening, an important question is whether this land use trajectory is narrowing options for the future and placing people in a state of greater vulnerability, including blocking positive transformation in relation to future food security. The current high reliance on purchased food and other goods was perceived by the majority of vulnerable people to be detrimental due to an increased need for scarce cash (Table 2) [26], and could become a more serious problem as food prices rise with the impacts of climate change [52]. Moreover, for households in isolated rural areas such as Gatyana, local supplies are costly and the transport to distant markets expensive. This further stretches meager cash resources. The waning in the perceived value of farming and homestead gardening also results in the potential loss of a set of other related benefits. These include communal ethics relating to farming, and other social and cultural benefits [6], reinforced ownership and entitlement rights [51], the supplementation towards incomes and food security, and provision of a safety net [12,53,54]. Gardening, for instance, has become a very individualistic endeavor, with not a single one of the households interviewed mentioning making use of work parties. Hebinck [5] and Andrew and Fox [6] propose that these trends have led to a disconnect between people and the land and the loss of a farming identity, with the prospects for the future suggesting that the youth are unlikely to be interested in farming [7,14]. Regarding the latter, Hebinck and Van Averbek [47] describe a scenario of rural residents, especially the youth, being in a mental state of “waiting to leave” the moment an urban opportunity arises, and as drifting between urban and rural settings (also mentioned by Dubbeld [49]). Bank [7] also discusses how new opportunities for women (in state-supported off-farm commodity groups), as well as their increased migration to towns and cities, have severed them from their traditional farming and gardening role. These shifts, together with the woody invasion and reforestation of old lands and grasslands [14], constitute a strong disincentive for future agricultural production in the area.

Despite this downward trend in production, cultivation has not totally disappeared; there are still a few dedicated cultivators (Table 3), and about a third of gardening households in Gatyana mentioned that crop cultivation is an important part of *Xhosa* culture and identity and is likely to continue. Some 15 percent believe cultivation will enter a phase of expansion again in the future. A survey conducted for the Mbhashe Local Municipality IDP (2012–2017) [55] showed that out of 31 wards, only seven did not list an agricultural-related need, suggesting that residents of the region are still interested in continuing to farm. However, even if some of the farming challenges could be overcome, and there was effort to support agricultural development in the region, the next challenge for farming is climate change. It has already been mentioned that the climate future for southern Africa, including South Africa, will be increasingly severe. Work in the study areas has shown that people are perceiving changes in weather patterns, which include shifts in the start of the rains to later in the season and more frequent dry periods.

These changes were attributed to factors such as “God’s punishment for the way society is going”, and were seen as a risk particularly by more well-off farming and livestock-owning households [30]. Such risk perception could serve as a further disincentive for farming. If agriculture is to be reinvigorated in these areas, it will be necessary to take into account shifts in seasons, rising temperatures (2–4 °C), and more extreme events such as droughts and floods.

Table 2. Reliance on purchased rather than on collected natural resources and cultivated food amongst vulnerable households in Gatyana and Lesseyton and perceptions of the impacts of this reliance (n = 100).

Site	Does Your Household Rely More on Purchased Goods than in the Past?		Has This Made It Harder or Easier for Your Household?		
	% yes	% no	% Easier	% Harder	% Unsure
Gatyana (n = 50)	72	28	16	72	17
Lesseyton (n = 50)	69	29	23	60	12
Some stated reasons			Gardening wastes money Shop gives credit Can’t rely on gardening Crops don’t grow Too old to garden	Transport expensive High costs in town Shops far Pay for load in taxi No other option	

Source: Clarke 2012, unpublished thesis [26].

Table 3. Narratives from interviews with households still cultivating fields indicating that there is still life in arable farming in the rural Eastern Cape (n = 19).

Why Are You Farming?	What Do You Think about the Future of Farming?
“No one forces me to farm, it is something I enjoy doing, I love it and have been farming since I was a child. I have never worked but in farming.”	“There is little interest from the younger generation in farming.”
“I don’t buy everything, for example I grind maize here at home and don’t buy it in town. Farming saves a lot of money”.	“We are still young and now we are negotiating with government to revitalize our fields, we are really pushing for them to come and support us.”
“I feel very good about being a farmer, I wish I would plant more if I had resources and if I was healthy.”	“My eldest child will definitely continue with farming.”
“I started farming from 1941 to today, it’s something I have been doing all my life.”	“My children and grandchildren will continue with farming because we raised them well regarding the importance of farming. They were raised to respect farming.”
“I’m passionate about farming chickens and crops. Farming guarantees food, you cannot experience hunger when farming.”	“There is hope of farming in the future here, people do talk about wanting to plant their fields again, and their hope is on government.”

Source: Shackleton and Hebinck (unpublished data) [56].

5.1.3. Unemployment, Declining Remittances and Less Cash

Remittances now only form some five percent of total household income sources in our study areas (Figure 2), whereas they used to be one of the main sources of cash income, especially for farm investment, for rural households [7,47]. Remittances have decreased with declining employment opportunities nationally in several sectors and in the cities, especially for the less-connected and less-educated rural poor [5,57]. Marais [58] estimated that between 1994 and 2000, more than 500,000

jobs were lost in the country. Further factors include de-industrialization in some of the smaller towns in the Eastern Cape [7,58] and the process of more-permanent relocation to urban areas, which leaves little money to send home [47]. The impact of HIV/AIDS on the productive-age classes of the population has also reduced remittances, as ill people return home for care or to die [54]. Bank and Minkley ([59]; p. 24) make the point that "...Evidence suggests that the rates and real value of rural remittances have been declining steadily since the 1980s," and go on to suggest that "The main dynamic in the post-apartheid era is that rural labor—once so eagerly desired—has become a burden to the state and an irrelevance to capital." The decline in remittances has had the effect of squeezing and stretching the cash obtained from grants and can also be linked to the decline in agriculture as mentioned previously, possibly further trapping people. Connected to a decline in remittances is a change in values related to how income from employment should be spent. Kepe and Tessaro ([5]; p. 271) mention that "Even if there are people who still hold jobs, nowadays migrant workers buy cars instead of cattle that should be used for plowing." In this case, a change in one source of cash income has resulted in cascading effects on livelihood diversification and land use in terms of both cultivation and animal husbandry.

5.1.4. Social Grants: Window of Opportunity or a Barrier to Transformation?

Social grants form the largest percentage share of livelihood income in both study sites and are sometimes the only source of income for households (Figure 2, Table 4). This contribution has become increasingly important as other income sources have declined and as social protection has increased. Post 1994, in an effort to alleviate poverty and redistribute wealth, old-age pensions in South Africa were equalized (*i.e.*, black and white pensioners now receive the same amounts) and social grants were extended to include a child-support grant, initially for children of up to the age of seven but increased in 2010 to children up to 18 years old [60]. Furthermore, in 2007 the eligibility age of men for a pension was dropped from 65 to 60, the same as for women. While the pension amount is significant and reflects the minimum wage, the child grants are small. These changes have increased the availability of state support to the poorest South Africans. Some 15.2 million people receive grants.

Table 4. Narratives from life histories indicating dependency on social welfare grants (n = 20).

"I worry about how I will survive if the government stops the old age grant."
"There are six people living in this house. Me, my two daughters, my brother and grandchildren. We live on the pension that I get."
"I cannot afford to build a decent dwelling for my family due to financial constraints. And to raise children on a social grant is very hard for me. It was better when my husband was alive."
"I am not employed; I do not have a job. I live on the grant I get. I live with my grandchildren. Nobody in this house is employed."
"Life is much harder now. There is no employment for the youth. They depend on my pension for survival. Everything they want they expect me to provide."
"If my grandmother were to pass on I would have no-one to support me, as I depend on her old age grant for surviving."

Source: Clarke, 2012, unpublished thesis [26].

Grants tend to be pooled within the household and are critical in contributing to food security, children's education and reducing the negative impacts of HIV/AIDS [27,60] (Table 4), but they have

also created high levels of reliance on them (forming more than half of household income, Figure 2) and there has been some diversion of benefits from the intended beneficiaries (something acknowledged by local people themselves). Many life-history interviewees stressed how they depended on grants as their only source of cash, and that these payments often did not stretch beyond supplying everyday needs (Table 4). This dependence on grants, however, cannot be separated from the apartheid history of the country and its disempowering effects on poor people's self-determination, confidence, and self-sufficiency, as well as the marginalization of the areas in which they live.

While various authors have suggested that grants can provide a window of opportunity, this does not seem to have been fully mobilized in our study areas, except by more educated households who have greater means of using social grants to invest in improved livelihoods [27]. Hagen-Zanker *et al.* [60] found that pensions can help adults within the pensioner's household seek employment by providing the resources for job-hunting. However, these results would only apply to individuals who are competitive in the job market, especially those with education (as revealed by Ndlovu [27]). Other research has shown the child grants have increased the likelihood of mothers participating in the labor market [61], but probably not in rural areas where there are few local employment opportunities. Other positive aspects of grants have been to reduce risky livelihood activities such as transactional sex, contribute to health care, and support other livelihood strategies.

Recent in-depth, ethnographic work by Dubbeld [49] in the village of Glendale in Kwazulu Natal, South Africa provides a more nuanced perspective on the role of social grants. His work suggests that not everyone sees social grants as a blessing and seldom as a substitute for wage labor. Young men in particular are not eligible for the current types of grants, but at the same time have limited job opportunities. Thus, the grant system puts money in the hands of some but not others. Interestingly, in our study sites it was only young males, especially those living alone, who were food insecure [32]. Dubbeld [49] further writes about how some of his informants perceived grants as "socially corrosive," destroying family values, morals and traditions such as marriage, absolving men of their parental responsibilities and contributing to disrespect of elders by the youth.

The situation in our study sites is complex and multidimensional, and there are no straight-forward answers regarding the impacts of social welfare and how it is affecting future trajectories. Fay [9], working in a neighboring site to Gatyana, found a correlation between the mean number of social grants per household and the presence or absence of field cultivation, with households with more child grants less likely to practice cultivation. Kepe and Tessaro ([5]; p. 271), also working in the Eastern Cape, explain how informants "unanimously agreed that with the prevalence of these grants, many people would rather use the monthly income from the grant to purchase food items rather than cultivate crops." Certainly, this trend seems to make sense, as purchasing food is much less risky and time consuming than investing in cultivation where the outcomes are unpredictable, especially as people are beginning to perceive and experience greater uncertainty in the climate. At the same time, growing food locally could reduce food insecurity into the future as previously highlighted.

The notion of a "cycle of dependency," described by Kofinas and Chapin [44] as a situation where individuals, households and even communities move away from traditional livelihood practices into systems with disincentives for self-sufficiency, is too simplistic in our context. While dependencies on external support could increase vulnerabilities to change, through depressing innovation and productive activity and narrowing the livelihood portfolio, these negative results may be outweighed by the

importance of these grants in providing a safety net, especially for the most vulnerable (women, orphans, the elderly and infirm, and those with low levels of education and opportunity). However, the grants are neither permanent nor secure and are lost when the pensioner passes away or the child grows up, potentially plunging households back into highly vulnerable states. Moreover, our results suggest that, given people's situations and other stressors in their lives such as HIV/AIDS, these grants are able to do little more than keep households within the status quo, preventing them from falling deeper into poverty. They cannot be the basis of investment for the future [49]. Other commentators have also recognized that the grant system alone is unable to change rural people's lives [58] and claim that the South African government's social security system is not designed to lift a significant proportion of individuals out of poverty. For such a result to occur, social grants would likely need to co-exist with other complementary transformations such as in education [27] and/or reductions in the effects of HIV/AIDS, and/or be more universally distributed. Consequently, the role of social grants in facilitating transformation, rather than merely helping people cope and survive, will need further investigation [26,30]. Indeed, at the moment, grants are unlikely to play a role in reinvigorating agriculture.

5.2. Broader Contexts and Changes Influencing Landscape and Livelihood Change

The changes in livelihoods described above have occurred within the milieu of a number of broader contexts, changes and stressors that characterize our study sites. These include the legacy of apartheid, HIV/AIDS impacts, changing values, demographic changes, unsustainable and maladaptive strategies such as crime, changing demographics and the erosion of social capital. The mental maps in Figure 3 illustrate the multiple stressors and changes recognized by men and women from the study sites and the links between these, including to farming activities; whereas Table 5 reflects the perspectives of the youth.

5.2.1. The Legacy of Apartheid and the Immovability of Path Dependence

While apartheid ended two decades ago, inequality and poverty in South Africa have worsened [54,62,63]. This reflects the legacy of the Bantustan system, with former "homelands" in rural areas remaining under-developed in comparison with former "white" South African areas and cities [57]. Consequently, the communal areas of the Eastern Cape continue to represent some of the poorest and most vulnerable regions in the country. The residual effects of poor education, poor service delivery, lack of land rights, the undermining of agriculture and self-sufficiency, and the creation of a labor pool can still be seen and continues to impact on people's livelihood options today. What is more, many of these deprivations are being perpetuated by the current government (Table 5). National transformation has not yet trickled down to the rural communal areas, and they still face neglect at multiple levels: "More than a decade into our successful democracy, the Eastern Cape Province remains trapped in structural poverty that shows in all aspects of its demographic, health and socioeconomic profile" ([64]; p. 15). This sentiment is recognized and reiterated at the local level as captured in Table 5, Figure 3 and the following quote from one of the in-depth interviews from our study: "The so-called freedom is for the educated people. As for the uneducated, it has brought them nothing." The quality of rural education is in a dismal state, as highlighted by students in our study areas (Table 5). Moreover, local government is failing in many of its delivery mandates (Table 5). Land rights in these areas are still in the hands of the state despite many promises to resolve the land question [5].

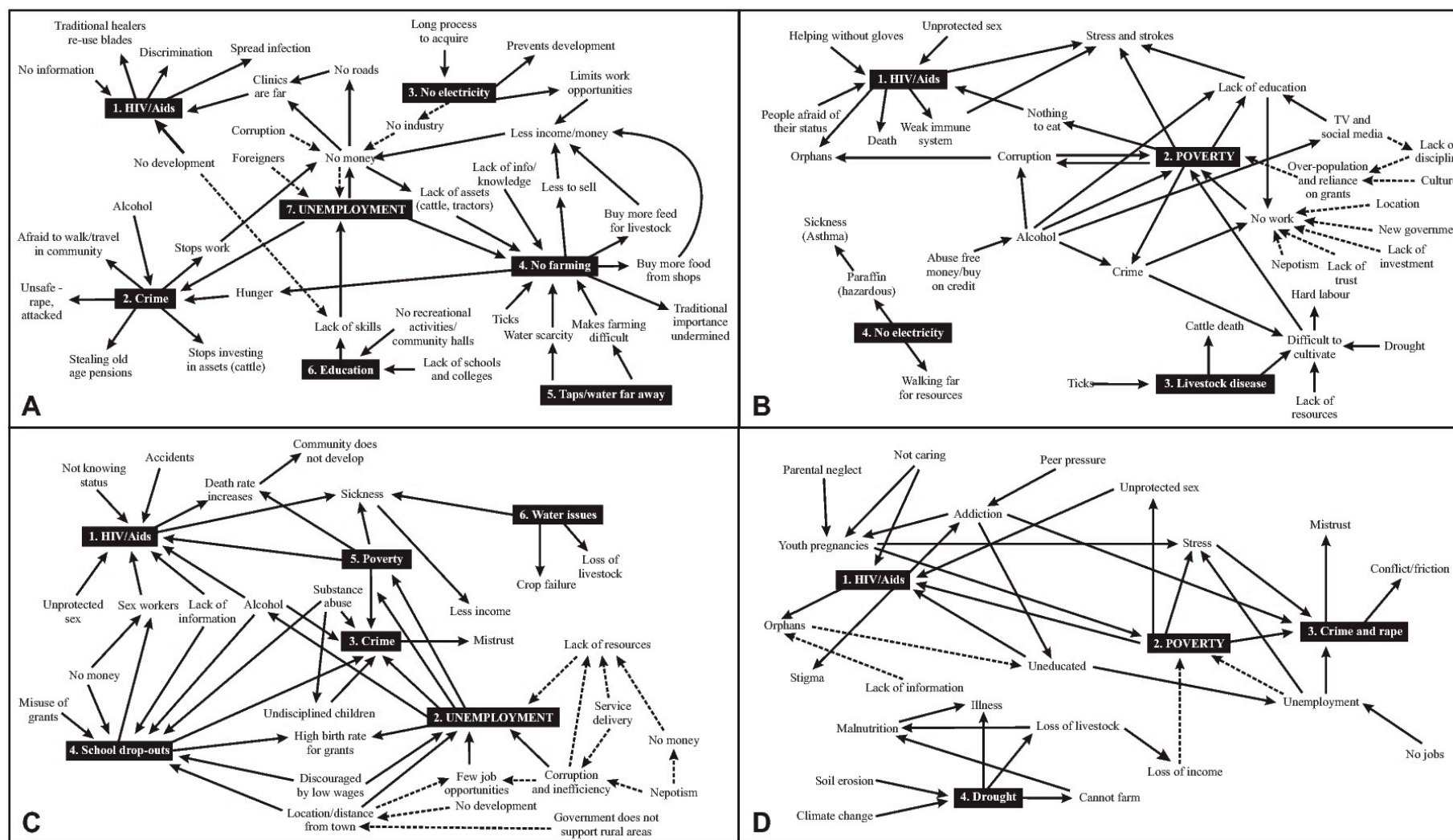


Figure 3. Participatory mental modeling spider-diagrams of perceived stressors in the community and their interconnections; done by (A) men in Gatyana, (B) women in Gatyana, (C) men in Lesseyton and (D) women in Lesseyton. Numbered items in the black boxes indicate the order of discussion of the major livelihood challenges/vulnerabilities identified; arrows pointing towards these boxes can be thought of as causes while those pointing away are effects, and dotted arrows indicate relationships revealed from a separate problem tree exercise. (Source: Stadler 2012, unpublished thesis [30]).

Table 5. Past, present and future problems and path dependency as discussed by the youth (Grade 11 learners) in Lesseyton and Gatyana (n = 20).

Lesseyton	Problems	Perceived Causes	Responses
Past	No electricity, not educated, low income	Service delivery, low education level, low income	Look for employment, sell livestock
Present	Not enough water, unemployment, health problems, crime—murder, rape, unhealthy environment (litter, animals), substance abuse, lack of information—distance, teenage pregnancy	Lack of education, theft of taps, dumping in the bush - unclear access rights to dumping site, drugs and alcohol linked to lack of recreation, peer pressure, media, ignorance, unemployment	Rainwater tanks, sell vegetables, sew clothes and other self-employment, prostitution, community punish criminals, contraception, use school library, people clean up area
Future	The same problems as present, but worse	Youth abusing drugs and alcohol, setting bad example for peers, leaders are corrupt and selfish	Knowledge sharing (guest speakers, evening classes, community library, adults should start this), leaders should be more educated so they take issues seriously, recreational activities, more police and police stations, more community skills-based programs, environmental regulations, elder supervision for youth, employ more nurses, street committees
Gatyana	Problems	Perceived Causes	Responses
Past	No education, transport, forced marriage, no rights	Children working, doing domestic duties, no money for transport, wanting money for marriages, Apartheid	Electricity
Present	Inadequate school and recreational facilities, teachers, no electricity, service delivery and roads, walk far for water, livestock theft, violence and crime, farming less, people are judgmental, lack of information, e.g., for bursaries	Corruption in school, no money, corruption in municipality, no water tanks and dams, poverty leads to theft, substance abuse, lack of education	Stronger and more policing No bail for arrests—harsher consequences More trained/qualified teachers Government should provide agricultural support Government should regulate child grants
Future	Violence and crime, no farming, no proper schools, teenage pregnancy increase	Government failing to deliver, lack of discipline and democracy, no consequences for crime	

Source: Clarke 2012, unpublished thesis [26].

The lingering effects of the entrenched policies of apartheid will thus continue to form a barrier to transformation in the previous Bantustans for a long time (see Figure 3), and new policies, for example, that aim to put traditional authority structures back into power have the potential to reinforce the “separateness” of these areas, disempower some groups of people (e.g., women) and heighten social differentiation [65]. Furthermore, education is one of the most important assets to extract households out of poverty [66] but seems to be in a trap of its own in the rural Eastern Cape. Ndlovu’s [31] work showed that with education, social grants can be used more effectively to build household resilience. These continued effects of the former apartheid system are supported by Adato *et al.* ([62]; p. 227) who claim

that “The legacy of apartheid is an economy in which social exclusion and poverty continue to interact in a mutually self-sustaining fashion” and is likely to persist well into the future. This characteristic, referred to as path dependence [38], we believe it is one of the fundamental aspects to be addressed to avoid traps and support transformation in the rural Eastern Cape. Indeed, if people in our study sites could move beyond living hand to mouth, it is possible that some would invest in revitalizing cultivation, as our research has shown that it is often the more wealthy (a minority) who are continuing to farm [14].

5.2.2. HIV/AIDS: Long-Term, Insidious and Asset-Eroding Impacts

In the rural areas in which we were working about half of households have been impacted in some way by HIV/AIDS (Table 6). This prevalence of HIV is supported by qualitative data, where many informants mentioned the loss of family members to HIV/AIDS and the increasing incidence in the community (see Table 7). With South Africa considered as having one of the highest HIV/AIDS prevalence rates in the world, this disease has had major negative impacts on households and communities across the country; a situation that was further exacerbated by the government’s lack of action and slow roll out of antiretroviral drugs. HIV/AIDS is a long-term stressor on livelihoods and not only a shock as frequently framed; its impacts are often gradual, incremental and uneven within communities and regions. Impacted households have higher and more specific dietary needs, and face the dual pressure of less productivity and income, coupled with increasing health-related expenses, often resulting in a downward spiral of increasing stress and food insecurity and the erosion of assets as these are sold to pay for healthcare (Table 7). At the household and community level, the deaths of adults equate to a loss of labor and skills, an upset of knowledge transfer systems, loss of professionals and a rise in orphans. Home-based care also diverts household labor from economically or agriculturally productive activities [67].

The effects of HIV/AIDS tend to be longer lasting than other causes of mortality for two reasons. Firstly, because so many families are affected, traditional coping strategies (such as support from relatives) have been eroded [22,68], which can affect responses to other shocks. Secondly, with the significantly higher death rates of prime-aged adults the number of orphans has grown [22]. These orphans are most often either taken in by relatives, usually grandparents, adding to the strain on household resources, or they form their own child-headed households, where they frequently experience a lack of supervision, stunted growth and poor socialization [69]. Many of these orphans have dropped out of school, and so the effects will last for the rest of their lifetime, if not generations. In the absence of adult caregivers (a major concern in the communities where we worked; Figure 3), these children are particularly vulnerable to exploitation, abuse and HIV infection themselves. Many authors have made reference to the “vicious circle” of HIV/AIDS and poverty, which can operate in mutually re-enforcing cycles, as HIV/AIDS depletes multiple forms of capital, whilst a lack of capital diminishes capacity to recover from other shocks and increases vulnerability to HIV/AIDS [20,67,70]. Therefore, HIV/AIDS in itself can create a trap for some households, possibly putting them in the position where the income they obtain from social grants merely sustains them. HIV/AIDS can thus impact the transfer of knowledge on land-based livelihood strategies to the youth, erode culture and traditional ways of life (such as farming) and impact labor availability for farming activities.

Table 6. HIV/AIDS experiences and presence of proxy indicators in households by site*.

Type of Impact	Lesseyton (n = 170)	Gatyana (n = 170)
Non affected %	42.4	34.7
Chronic illness and receiving free care %	45.9	47.6
Illness-related death in previous 10 years %	18.2	22.9
Presence of <i>de facto</i> orphans %	24.1	17.6

* Percentages do not total 100 as households may have multiple experiences. Source: Stadler 2012, unpublished thesis [30].

Table 7. Narratives from the life histories (n = 20) suggesting the long-term impacts of HIV/AIDS, crime, and the erosion of social capital, but also how family still tries to assist in times of stress.

Contextual Factor	Representative Sample Quotes from Life Histories
HIV/AIDS	“In the past, the people were healthy and fit and working. Funerals were not an everyday thing as it is the case now. Every weekend there is a funeral, it has become the norm. HIV/AIDS is rife. Some disclose their status and others do not.”
	“The death rate due to HIV is very high.”
	“Sickness is worse now. There was no HIV and no asthma.”
Crime	“Health is not good at all. People could reach 80 years and above; but now we die at age 40. We are a cursed generation, we think.”
	“We got a phone call on a Saturday at about 12 midnight to say Grandma was being attacked by thugs. They stabbed her 4 times. Grandma stayed with a 14 year old girl. They ran away with the girl. We searched for the girl and when we arrived we found the girl dead; they had raped her and broke her neck. We are disappointed in the police in the way the case was handled. In fact the case was dismissed. Justice had failed us.”
	“Crime is rife. I cannot leave my chickens in the fowl run. When it is bed time, I fetch the chickens and they sleep with us in the house.”
Social capital and networks	“It was a quiet place when I first arrived here but now things have changed. There was no crime here and no murders.”
	“People in the community are unreliable. You cannot count on them.”
	“It is not easy; very few people are willing to assist. If someone assists you with anything, they expect you to pay back.”
	“I seek help from my sisters. The community does not help. They gossip about other peoples’ problems so I do not bother asking them for help.”
	“I borrow money from my relatives; they do give when in a position to.”

Source: Clarke 2012, unpublished thesis [26].

5.2.3. Changing Perspectives and Values

Interviews with different actors in the two communities, including the youth, the elderly and mixed groups, suggested that the rural areas of the Eastern Cape are undergoing a process of social and cultural change as new values, goals and ambitions take root. As the above sections suggest, the youth do not appear to have a strong interest in systems of local production and prefer the idea of working in formal

employment (Table 5). This has also been observed by other authors with respect to food gardening in other areas of the Eastern Cape [50,71]. Moreover, adult members of the communities felt that the younger generation has lost respect for traditional ways of life and the authority of their elders and is flaunting discipline, family and community values, rules and norms (Table 7) [26,30]. One of the biggest issues that emerged in our participatory social learning meetings in both sites was concern about the future of the youth (Figure 3). A lack of parental care and discipline were mentioned repeatedly in both sites as major factors contributing to community vulnerability. This can be partially linked to the HIV/AIDS epidemic as described above. At the same time, interviews with the youth suggested that they feel misunderstood and neglected. All groups, however, commented on the serious problems of substance abuse, truancy, crime and teenage pregnancy amongst the younger generation and saw this as a barrier to development, farming and lower dependence on grants (Table 5).

These trends, together with the general perception amongst the youth of a hopeless future, their own general lack of empowerment and few adult role models, are in line with findings of youth in marginalized communities elsewhere in the country [72], and emphasize the need to incorporate youth in community development and adaptation planning. Reflecting the modernization that is happening, discussions with youth groups in both sites indicated a desire for a strong emphasis on education, schooling and knowledge (Table 5), whereas these themes were largely absent from discussions with elderly groups. Knowledge and agency are important to counter-act the negative behaviors arising from not being able to imagine a bright, hopeful future [72].

In addition to changes in how the youth see their lives and futures, and the intergenerational tensions this causes, Bank [7] asserts that other tensions in household dynamics relate to the increasing influence and decision-making power of women, encouraged partly through state projects designed to support women's development through (off-farm) commodity groups. He contends that households have "crumbled under the pressure of change," and that this social fragmentation has serious consequences for any efforts to re-institute household-based activities such as family farming.

5.2.4. Urbanization and Shifts in Demographics

Migration has always been an important process shaping rural demographics in the Eastern Cape, but more recently much of this migration of both men and women has become permanent in that migrants rarely return to their rural homes on either a part-time or full-time basis [7]. Population statistics from the province show highly skewed, concave population pyramids for those municipalities that consist mainly of rural, communal areas. In these areas, the proportion of young and middle-aged adults who make-up the economically active sector of the population (the peak age for out-migration is between 25 and 39 years) is substantively less than in urban areas [7,64,73]. The Eastern Cape has the highest rate of permanent net out-migration of any province in South Africa, with most of these migrants going to the Western Cape, followed by Gauteng and Kwazulu-Natal. Some 73 percent of black Africans living in the Western Cape were born in the Eastern Cape [74]. As described above, the permanence of this migration means that there is little spare cash to send remittances back to the rural family [7]. The dominance of children, looked after by the elderly, in the rural Eastern Cape population and in our study sites is another factor affecting the ability of households to use their land productivity. Lack of labor as pensioners become less mobile was a common reason provided for withdrawal from arable farming in

our study sites, particularly in the Gatyana site. Over the four years of our study, we observed several elderly households give up farming their fields due to their inability to continue with the physical work. The poor socio-economic conditions in the province described above is reflected in this pattern of outward migration.

5.2.5. Crime and Other Maladaptive Behavior

Crime was an issue that surfaced repeatedly in our interviews and workshops (Table 7, Figure 3). This is unsurprising as South Africa's incidences of criminal activity are one of the highest in the world [57]. Amongst men, women and youth in the two study sites, crime was seen as a major factor contributing to vulnerability, preventing productive activity including farming and small business establishment, and leading to mistrust and conflict in the community (Table 5, Figure 3, Table 7). The Lesseyton youth mentioned how the theft of communal taps was affecting water security, and women in Gatyana cited how it has become unsafe for them to walk far distances to collect natural resources or to cultivate fields. Women and girls, in particular, are vulnerable to rape and violence.

Crime was linked to a host of problems, including: unemployment, poverty, a failing education system and school drop-outs, lack of parental care and discipline amongst the youth, and alcohol abuse, amongst others. The absence of a parent/parents within a household can impact emotionally on a child, and may increase the likelihood of children (primarily boys) becoming involved in crime [75]. In both sites, crime was described as an inhibiting factor preventing people from investing in assets, notably cattle, fences and other farming equipment for fear that these would be stolen. Theft was also shown to be one of the main constraints to farming in a study by Perret [76]. In addition, the youth in both sites associated crime with the lack of recreational activities, peer pressure and social media. The youth believed that there were no real consequences for crimes committed and therefore people had no fear of repercussions. Crime was often described in terms of cyclic knock-on effects: crime leading to limited livelihood options, in turn driving people to substance abuse and other desperate crimes. The effects crime has on a community's social capital and livelihood options, not to mention the health and well-being of the individual members affected, quite clearly indicates how crime can be viewed as a persistent barrier to action and transformation and a contributor to the trap people are in. Bhorat and Kanbur [57] argue that there is a fair degree of policy inertia in terms of dealing with crime, and this is evident in some of the narratives obtained from the life histories (Table 7). Corruption (outside and within the community) and nepotism were also mentioned as important factors affecting access to services, jobs and assets, as well as impacting on community development. Crime and corruption thus form major barriers to agriculture, innovation, motivation and livelihood improvement (also see Table 5).

Alcohol abuse was also mentioned in several discussions as a key factor that kept people in poverty (Table 5, Figure 3). About a quarter of all households, regardless of income group, were purchasing alcohol every month (Table 8), although this was much lower in female-only households. It has been estimated that about one in four men and one in 10 women in South Africa experience symptoms of alcohol-related problems [77]. Passing time in the taverns was also mentioned as a serious problem amongst young men that prevented them from getting involved in productive and healthy activities. Alcohol is recognized as a driver of risk-taking sexual behavior in South Africa, with HIV intervention strategies that focus on responsible drinking showing positive results in reducing the risk of

infection [78]. Alcohol abuse also increases a person's vulnerability if they experience social marginalization and discrimination as a result of their addiction [79].

Table 8. Differences in percentages of households purchasing alcohol.

		Lesseyton (n = 168)	Gatyana (n = 170)
Gender of adults in the household	Male only	39.1	32.4
	Adult male head with adult female/s	26.7	34.1
	Adult female head with adult male/s	19.2	25.6
	Female only	4.0	4.2
	P Value (Pearson Chi-Square)	0.008	0.002
Income category	Lowest income	19.5	20.9
	Low income	33.3	17.4
	Moderate income	25.0	28.2
	High income	20.5	26.8
	P Value (Pearson Chi-Square)	0.458	0.604

Source: Stadler 2012, unpublished thesis [30].

5.2.6. Erosion of Social Capital

Seeking assistance from family and friends was one of the most common responses to shocks revealed in our sites [26]. However, there was also evidence that drawing on others for assistance is not as easy as it was in the past (Table 7). Adato *et al.* [62] explain that the erosion of social capital amongst black South Africans started with the social exclusion policies of the apartheid government, which barred people from opportunities to earn income, access to assets, decision-making, social services and community and family support. However, this loss of social capital seems to have accelerated in recent years. In both our study sites, community members in various discussions (Figure 3) mentioned how crime and corruption were undermining community trust and cohesion, and how HIV/AIDS was resulting in a strain on social networks. Generally, family members may assist in preventing destitution, but usually cannot do much more because they also lack resources (Table 8) [62]. A general decline in social capital was identified in our study sites [30], although female-headed households seemed to have more social capital than those headed by men [32].

This situation is not unique to the Eastern Cape. Hebinck and Bourdillon [80] also observed a decline in kinship ties in rural areas of Zimbabwe, while Adato *et al.* [62] found that one third of the households they had surveyed in KwaZulu-Natal reported problems of conflict and distrust between families. Linked to the phenomenon of declining cultivation is the disappearance of communal labor-sharing work parties and after feasts, which were essential to plow and plant large areas [14,28,48]. Bank [7] and Dubbeld [49] also write about the fragmentation and loss of social capital within rural households as a consequence of several of the factors discussed above, which in turn affect collective family activities such as farming.

6. Conclusions: Traps, Transformations and Possible Future Trajectories

There are multiple factors impeding or making it difficult for people in the rural communal areas of the Eastern Cape, in particular female-headed households, HIV-impacted households, and those with

low levels of education, to escape their current situation of poverty and vulnerability and to make choices regarding their livelihoods. The various stressors and changes identified, combined with the highly polarized legacy of the country, effectively hamper local people's ability to take action to better their situation and respond to new or future shocks and stresses. It thus could be argued that the majority of households are in a poverty trap, affected to some extent by a locked-in trap (with path dependency) at a higher level. In particular, a key consequence of the changes is that poor rural households in the Eastern Cape are becoming increasingly dependent on cash income, more specifically social grants (which in themselves are not secure), for their livelihoods and food security. Moreover, residents of these areas see these changes as placing a strain on their livelihoods, with consequences for savings and coping with future shocks. The decline in cultivation and the high dependence on purchased food can put poor people at the mercy of markets; something to be viewed with concern in the context of growing food demands and the projected effects of climate change on food prices [81,82]. Maintenance of small-scale farming systems, or at least some form of food self-reliance, is therefore seen by many to be a priority for food security, health, livelihood resilience, and adaptation to future climate change [52,83]. Given the multiple drivers of the decline in cultivation in the Eastern Cape, and the barriers to reviving it, as identified in this paper, new approaches that cater to different groups with different aspirations will be needed. These approaches could range from boosting household food security to small-scale farming, but not before the fundamental issue of land rights is addressed. As pointed out by Kepe and Tessaro [5], without transformation in communal area tenure systems, it is unlikely that much progress will be made with efforts to reinvigorate agricultural production. At the same time, it will be necessary to consider the potential impacts of changing weather patterns and future climate trends on production and the consequences of the increasing woody invasion of the landscape. Participatory scenario development could be used as a tool to explore different pathways to multiple futures [24].

The notion of people in the rural Eastern Cape being “stuck” is supported by work by Adato *et al.* [62], who argue that large numbers of South Africans are trapped in poverty without a pathway to upward mobility. Similarly, Bank and Minkely [59] talk about people in the rural Eastern Cape being caught-up in a process of “involution”; a situation in which, “Economic marginalization and disconnection inhibit social change because they lock people into a system of shared poverty, where the poor reinvent communitarian traditions of mutual dependence and risk-spreading in an effort to protect themselves from the effects of deepening poverty” ([59]; p. 26). They further go on to identify the rural Eastern Cape as a “case of the entrenchment of a livelihood system which has failed to either stabilize or transform itself into a new pattern under changing conditions.” Such arguments are reiterated in the work of Cundill and Fabricius [84]. They show how the Eastern Cape's history, together with more recent experiences of poverty and mobility, has resulted in a situation characterized by high levels of vulnerability, low levels of institutional capacity and the reduced production of, particularly, provisioning ecosystem services through agriculture. They contend that these conditions represent a trap that will require a great deal of energy to escape, and that transformability must be at the focus of discussions about future trajectories in the region.

The complexity of livelihood change and the multiplicity of factors interacting at an immediate level in the study communities—some common and others uncommon, some emerging from within the community and others arising from wider spheres of influence—together with the mixture of economic and social drivers, highlight the importance of understanding local perspectives of change and stressors to plan for effective transformation. Like Levine *et al.* [85], we recognize that “There is no neat

distinction between risk, shock, stressors, vulnerability, barriers and responses (whether coping, adaptive and transformative), because in the real world they can be one and the same” ([85]; p. 2). As our results have shown, a stressor or change can become a barrier, just as can a maladaptive response or an unintended transformation (e.g., decline in agriculture). Moreover, research from our study sites shows that escaping traps that result from multiple stressors and change are likely to require multiple transformations. Trying to address the complexity of these traps with simple, single transformations may perpetuate, or even exacerbate, these. For example, Ndlovu [27] indicates that the potentially transformative policy of initiating social grants for large segments of the poor population has led to reduced labor supply in productive activities including farming. However, results also suggest that this negative effect could be overcome with improved education. Conditions at our study site thus imply, in addition to clearer land rights, addressing problems related to health and HIV/AIDS, crime and other social welfare issues may also be pre-requisites for transformative change, as will addressing basic structural issues related to continued neglect. Though the focus of our work in understanding multiple stressors is a fundamental step in better comprehending, and reacting to, poverty and vulnerability in the Eastern Cape, more work is needed on assessing the impacts of multiple responses, such as social grants, education, land tenure reform, health programs, and crime prevention. Moreover, the dynamic context of vulnerability and transformation is an area that livelihood investigations, such as ours, rarely have high quality, longitudinal data to address. For example, in our work, most of our data were collected within three years, requiring our interpretations to be supplemented with secondary findings from other researchers that may not be directly comparable. Collecting panel data over decades would greatly help in developing a more nuanced understanding of the time dimension to multiple stressors and responses. This was highlighted in Chapter 13 of the 2014/15 IPPC report, where it is stated that the majority of studies “Do not focus on continuous struggles and trajectories but only offer snapshots. An explicit analysis of livelihood dynamics would reveal more clearly how people respond to series of climatic stressors and shocks over time” ([86]; p. 818).

Within this complexity of traps and changes in our study sites, we argue that, while some of the changes observed could be thought of as unplanned transformations, their future trajectories remain unclear and their desirability ambiguous given the uncertainty of the future. Within this context, introducing specific, as opposed to enabling, transformations could become risky. For example, despite the decline of cultivation, and the problems associated with this trend, we believe, as mentioned above, that to introduce policies that seek to re-establish agrarian livelihoods in these rural areas will need careful consideration and a suite of approaches so as to prevent these being counterproductive. Further, we do not know whether the resources that households would have to divert to agriculture would be worth the increased food security and reductions in cash expenditures on food that such changes may bring. Instead, if an enabling environment can be created, where people are educated, healthy, live in communities with minimal crime, and have tenure security and the rights to self-determination, then they will be in a better position to consider pros and cons of alternative livelihood options themselves, including reinvigoration of agricultural production as a livelihood diversification activity. Such an approach also helps to avoid the normative nature of specific pathways and aligns with Leach *et al.*’s [87] notion of multiple pathways to sustainability, where promoting numerous solutions through diversity helps to recognize the values, needs and interests of different people and places. Such an approach also keeps options open and allows people to change.

However, creating an amenable environment for making choices is not easy, and we agree with Bank and Minkley ([59]; p. 21) that to transform these areas requires:

“...more detailed analysis and understanding of the social, political and economic forces that have deepened and entrenched poverty in rural areas over the past decade. We need to know how existing inequalities are being maintained and reproduced. It is not enough to assume that the removal of ‘obstacles’ and the introduction of localized incentive packages will be enough to re-orientate an entire region with a long and deep history of poverty and under-development.”

Indeed, deep political commitment to structural and discursive transformations that take into account aspects of distributional justice, that recognize the shifts in rural livelihoods and household dynamics, and that build on local visions, strengths and agency are needed. In the words of Matiwane and Chimera-Dan ([64]; p. 16), this entails “extraordinary measures by the government and all development partners in order to break the shackles of structural poverty and its consequences among the population of the province.”

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Author Contributions

Sheona Shackleton and Marty Luckert were co-leaders of the project and conceived and wrote this synthesis paper drawing on the work of other team members.

Conflicts of Interest

The authors declare no conflict of interest.

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