GEOGRAPHY | RESEARCH ARTICLE

Subsistence farmers’ differential vulnerability to drought in Mpumalanga province, South Africa: Under the political ecology spotlight

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Abstract: This paper examines social differences and drought vulnerability among subsistence livestock farmers in Mpakeni, Mpumalanga province, South Africa. This paper asks, how do social differences between households and power relations shape vulnerability to drought? This is against the backdrop that parallel exposure to climatic risks does not translate to similar vulnerability among households residing in the same community. In-depth interviews were used to obtain primary data from purposively selected participants in Mpakeni. Some key findings reveal that being a non-local elite, a migrant settler and some female-headed households, especially those burdened by the additional tasks of caregiving, amplifies the challenges of securing forage when depleted in communal

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PUBLIC INTEREST STATEMENT

Livestock production plays a significant role in enabling many rural households in sub-Saharan Africa to meet their livelihood objectives. The increased occurrences of drought within the last decade have drastically reduced forage in communal grazing fields, thereby undermining livestock production. This has enormous consequences for rural livelihoods in South Africa, where over 70% of households are actively involved in livestock production in areas governed by traditional leaders. Nonetheless, uniform exposure to drought among households’ livestock living within the same community does not translate to equal vulnerability. It is, therefore, imperative to understand the factors and dynamics that make it extremely difficult for some households in rural South Africa to secure forage for their livestock when it is depleted in communal grazing fields. This will ensure that tailored interventions are meted out to all households, regardless of their social status and identity, so that they can continue effectively in livestock production.
grazing fields. This is partly due to reduced time allocated to shepherding their livestock to the bank of a local river. Also, non-local elite and those who lacked social ties to the headman found it difficult to get compensated when their livestock were eaten by wild animal upon illegal entry to a game reserve rich in vegetation. This paper argues that vulnerability studies that focus independently on issues like gender, ethnicity and class may miss the dynamics that shape individuals’ vulnerability to drought, which could have severe consequences for implementing effective interventions.

**Subjects: Rural Development; Environment & the Developing World; Human Geography**

**Keywords: drought; livestock production; poor rural households; political ecology; South Africa**

### 1. Introduction

Climate variability and change have increased the frequency of meteorological droughts\(^1\) in both developed and developing countries over the past two decades (Intergovernmental Panel on Climate Change [IPCC], 2014). The increased frequency of droughts has, however, compromised the subsistence livestock production of poor rural households in developing countries, partly due to difficulties associated with access to forage (Schreiner et al., 2018). This has amplified the rural poor’s pre-existing vulnerability to drought and undermined their fight to live above the global poverty line of USD 1.90 per day in countries such as Botswana (Kgosikoma & Batisani, 2014), Kenya (Opiyo et al., 2015), Zimbabwe (Moyo et al., 2013) and South Africa (Schreiner et al., 2018). In the context of South Africa, livestock production is perceived as a vehicle through which the high poverty and inequality levels among the rural poor can be drastically reduced, albeit by the implementation of effective policies (Donkor et al., 2020; Hall & Cousins, 2013). This assertion is reinforced by Pica-Ciamarra et al. (2011) who argue that, livestock enables the rural poor to spread risk and build their resilience to both climatic and non-climatic shocks. In the past decade, however, climate variability has resulted in increased drought conditions with severe consequences for livestock production through the shortage of nutritious forage in communal grazing fields (Clarke et al., 2012). By 2050, hotter and drier weather conditions, coupled with a 5–10 percent decrease in rainfall, have been predicted for South Africa (Clarke et al., 2012; Engelbrecht, 2016). Under the current state of affairs, future drought conditions may trigger the forced sale of livestock while drastically increasing livestock mortality due to anticipated difficulties in accessing forage, a scenario that has played out previously in the country (Schreiner et al., 2018).

However, it is acknowledged that parallel exposures to drought do not often translate into uniform vulnerability among households. Certain social differences such as being a non-local elite,\(^2\) a migrant settler and a female who head a household, for example, determine how households can access forage for their livestock away from communal grazing fields, thereby making them differentially vulnerable to drought (Dinko et al., 2018; Yeh et al., 2014). In addition, local power structures influence the extent to which the livestock of social groups become differentially vulnerable to drought, especially in areas under traditional leadership governance (Dinko et al., 2018). From a South African perspective, for instance, traditional leaders—through legislations such as the Traditional Leadership and Governance Framework Act (TLGFA) of 2003 and the Communal Land Rights Act (CLRA) of 2004—are crucial in dictating access to, and the use rights of local communal resources. The aforementioned legislations have entrenched the powers of traditional leaders as custodians of communal land (Bennett et al., 2013; Classens, 2014). Capps (2016) highlights that the reassertion of proprietary powers conferred on traditional leaders by government in the name of “custom” produces conditions through which land is indirectly transferred to investors (e.g., mining). This, in turn, serves to
authenticate the commoditisation and appropriation of land, working to the detriment of the rural poor. Thus, accountable governance is crucial to dismantling potential barriers that may amplify any social group’s vulnerability through institutionalised forms of ruling at the local level (Mnwana, 2015).

Studies have underscored how droughts differentially impact subsistence livestock production among various social groups in countries such as South Africa (Clarke et al., 2012; Hosu et al., 2016; Shackleton et al., 2014), Botswana (Kgosikoma & Batsoni, 2014) and territories in the horn of Africa (Pavanello, 2009), to mention but a few. These studies do not, however, explicitly highlight the dynamics that shape drought-related vulnerability at the household level, nor have they theorised the power relations including how the governance of communal grazing fields within a localised context shapes households’ access to areas where nutritious forage might be available in drought conditions. This paper aims to address these gaps by analysing the factors that amplify the vulnerability of subsistence livestock producers in drought-stricken areas. Mpakeni community in Mpumalanga province, South Africa, is used as a case study due to the high poverty rate among households being characterised as endemic (Provincial Treasury, 2015), and because approximately 60 percent of households are actively involved in subsistence livestock production. This paper utilises a Political Ecology Framework (PEF) to unpack these issues mainly because exposure and vulnerability to climatic risks are simultaneously shaped by the underlying political and socio-economic structures within a localised context (Blaikie et al., 1994; Dinko et al., 2018).

The political ecology analysis of exposure and vulnerability to climatic risks differs from climate hazard research approaches, which are often hinged on an assessment of the cumulative adaptive capacity of any group of people under scrutiny. This could be attributed to the methodological approach (often quantitative) applied when conducting such studies. To substantiate this point, Birkenholtz (2012) acknowledges that climate hazard research seems more interested in highlighting patterns and testing relationships through statistical methods aimed at identifying correlates of vulnerability, than in scrutinising the underlying causes. In other words, the climate hazard approaches offers little by way of explanation why climate variability affects social groups unequally. Thus, the PEF analysis is crucial because a community comprises diverse individuals and households with contrasting characteristics and unique prevailing circumstances that could amplify their livestock vulnerability to droughts and widen existing inequalities. It also facilitates a robust understanding of the power relations that exclude some households from easily accessing the natural resources capable of upscaling their adaptation to drought (e.g., see Dinko et al., 2018). This, in turn, may provide the theoretical foundations needed to implement equitable solutions when dealing with issues of disproportionate vulnerability in communal grazing fields governed by traditional leaders. Arguably, this form of analysis is desperately needed in South Africa because livestock symbolise rural households’ wealth status and, therefore, catalyse investment in livestock production.

2. Materials and methods

2.1. Study area description

South Africa is a semi-arid nation with a dual agricultural economy, compromising a mixture of highly-advanced commercial farms and more subsistence-based farming in remote rural areas (Cheteni, 2016). Seven climatic regions, ranging from the Mediterranean to subtropical to semi-desert and rich biodiversity, enable the growth of a diverse range of agricultural products. Nevertheless, farming is crucial to the local and national economy with estimates of circa 8.5-million people directly or indirectly reliant on agriculture for their employment and income (Magagula & Tsvakirai, 2020) including Mpakeni.

Mpakeni community is situated in Mpumalanga, the second-smallest province after Gauteng, which comprises 6.3 percent of South Africa’s land area (Statistics South Africa [Stats SA], 2016). Mpakeni is nestled in the Mpakeni Tribal Authority, which consists of a cluster of four villages:
Daantjie, Luhus, Zwelisha and Mpakeni. Its geographical coordinates are 25° 29' 08" South, and 31° 16' 38" East. It is situated at an altitude of 821 meters. The area is bordered along its north-western side by the Mthethomusha Game Reserve (Figure 1), established in 1993, an 8 000 hectare field that preserves wild animals such as lions, cheetahs, elephants, and buffalos, among others, and is located approximately three kilometres from Mpakeni. Mthethomusha Game Reserve was one of the very first game reserves to be built on what has become the contemporary approach to community and conservation partnerships. Established through an innovative initiative by which the then Tribal Authority of the Mpakeni tribe, under the leadership of the late Chief Charles Nkosi, gave low-potential agricultural land over to the management of the KaNgwane Parks Corporation for optimal and sustainable development (South African Ventures [SA-Ventures], 2019). An *induna*³ oversees the affairs of the Mpakeni tribe, resides in Daantjie, which is outside Mbombela in Mpumalanga.

There is generally a high unemployment rate in Mpakeni (Provincial Treasury, 2015). For example, it was reported that 37 percent of the residents live below South Africa’s lower-bound poverty line of R810 (USD 54) per person per month. The ratio of males to females is 47:53 percent, according to Stats SA’s 2016 census data. The gendered nature of unemployment is such that 24.4 percent of males and 29.2 percent of females are unemployed. Moreover, unemployment amongst the youth (15–34 years) is at 38.8 percent. Life expectancy for males and females for the period 2011–2016 was recorded at 55.8 and 57.2 years respectively (Stats SA, 2016).

Livestock production in the area contributes to food provision for home consumption or during celebrations, provides cash income through sales (especially in times of adversity) and fertiliser (cow dung), and represents an investment opportunity. To help sustain livestock production in the area, cattle dipping is carried out every Thursday, when owners bring their cattle to a designated location in Mpakeni to be disinfected with the help of agricultural extension officers. Livestock reared in Mpakeni includes goats, cows, sheep and pigs. Most households undertake homestead gardening, growing crops such as maize, chillies and spinach, amongst others. A nearby landmark, the Crocodile River, which traverses Mpumalanga province, originates from the north of Dullstroom, Mpumalanga, in the Steenkampsberg Mountains. With a total catchment area of 10 446 km², the river passes via Nelspruit, the Lowveld agricultural zone and the Kruger National Park (SanParks, 2018).

2.2. Methodology

Data were obtained from participants through in-depth interviews held between October 2015 and March/April 2016. Following discussions with one of the authors who conducted an extensive research in Mpakeni in the aforementioned timeframe, issues of differentiated vulnerability came to the fore. Thus, the interview transcripts were reanalysed while follow-up and new in-depth interviews were conducted in December 2018 to get clarity on some grey areas, which the previous interviews did not take into consideration. In total, the responses of 57 participants are used for this study, as their responses align with the pursed objectives of this article. Informed consent was obtained in the local dialect, through a field assistant fluent in siSwati, the local dialect. Their verbatim responses were translated into English by the field assistant.

Only the responses of participants involved in livestock production in Mpakeni for a minimum of 10 years featured in this article. The selection criterion was underpinned by the fact such participants may be able to provide rich information that meets this paper’s objectives, especially since both TLGFA and CLRA became statutory in 2003 and 2004 respectively. It is believed that the introduction of the aforementioned Acts, which formally legalised the role of traditional leaders as custodians of communal land, may have recalibrated where and how nutritious forage can be accessed in the community in comparison to the pre-institutionalisation of both Acts. This is
something people recently involved in livestock production may not have experienced. The participants were in the 40–75 year age cohort, with relatively more females (66%) than males (34%) (Table 1), a ratio ascribed to patriarchal societal structures, especially in rural areas in developing countries, which sees mostly women shouldering the responsibility of farming. Thus, studying such a group was envisaged to provide an in-depth understanding of subsistence livestock farmers’ vulnerabilities, by listening to their experiential stories (see also Ebhuoma & Simatele, 2017; Ebhuoma et al., 2019).

The dataset obtained were transcribed and coded using the thematic content analysis technique. Themes were generated by applying the keywords-in-context (KIC) approach, one of the several methods used to identify themes (Ryan & Bernard, 2003). By identifying keywords (drought, differential vulnerability, local elites, non-local elites, household heads, traditional leader and non-indigenes of Mpakeni), the first author searched the corpus of text to find all instances where such words were used. This method of identifying themes was to ensure that the objectives of this article were achieved. The sub-headings in the results and discussion section emerged from the keywords.

3. Results and discussion

3.1. Drought conditions in Mpakeni

According to Gbetibouo et al. (2010), Mpumalanga has been particularly adversely affected by drought. Between 2000 and 2014, the average temperature in the region increased by 0.5°C (Elum et al., 2017). The participants’ argued that severe drought episodes—which resulted in forage shortages—have become almost a yearly occurrence over the past decade. Half of the participants categorically emphasised that the 2015 and 2017 drought episodes were the worst they have had to contend with for almost a decade. As one respondent explained:

In 2015 and 2017, many community members including myself were forced to sell some of our livestock (cows and goats) at unfavourable prices when we noticed that some people’s livestock died due to a shortage of forage. Rich people (local elites) were the ones fortunate enough because they could afford to buy forage for their livestock.

In similar vein, another respondent commented:

The 2017 drought was the most severe in the last ten years. I sold eight of my cows at a much lower price because I could not afford to buy forage for them consistently. It was a difficult time for everyone, including the rich people, because they had to spend a lot of money to ensure the survival of their livestock.

The participants’ views, which suggest that 2015 was a drought year, align with the findings of Schreiner et al. (2018) who assert that the 2015 drought in South Africa resulted in the depletion of forage in communal grazing fields, increased livestock mortality and forced the slaughtering of livestock (to avoid mortality due to starvation). Also, rainfall data for Mpumalanga province obtained using the Modern-Era Retrospective Analysis for Research Application (MERRA-2) model corroborated the participants’ views that 2015 was a drought year (Figure 2). The MERRA-2 model dataset is used in

Table 1. Participants’ distribution and household heads

| Gender | Frequency | Percentage | Household heads | Frequency | Percentage |
|--------|-----------|------------|----------------|-----------|------------|
| Female | 23        | 60.5       | Female         | 23        | 60.5       |
| Male   | 19        | 33.3       | Male           | 19        | 39.5       |
| Total  | 38        | 100        | Total          | 38        | 100        |

Source: Fieldwork (2015; 2016 and 2018).
place of the South African Weather Services (SAWS) metrological dataset to plot a line graph because the dataset obtained for Nelspruit (the nearest weather station to Mpakeni, about 37 km away) had numerous missing data. Besides, the MERRA-2 precipitation dataset is an acceptable proxy rainfall data (Gelaro et al., 2017). Annual maximum rainfall in 2015 was 499.27 mm (SAWS value is 403 mm), which was inconceivably lower than the decadal (2005–2015) maximum yearly rainfall of 740.52 mm for Nelspruit (Masereka et al., 2018).

By contrast, however, both datasets obtained from SAWS and MERRA-2 did not validate participants’ assertions regarding 2017. According to South African Weather Services [SAWS] (2019), the mean daily rainfall for Nelspruit in 2017 was 640.32 mm. This was higher than the mean daily rainfall of 620.13 mm, from 2007–2017. MERRA-2 model data shows that the daily mean annual rainfall for 2017 was 858.65 mm, which was higher than the mean daily rainfall, from 2007–2017, of 751.37 mm. In the South African context, annual average rainfall calculated by SAWS over 112 years period (from 1904 to 2015) is 608 mm (De Jager, 2016). Perhaps, what the participants’ experience in 2017 was caused by a variation in rainfall patterns, which triggered the occurrence of an agricultural drought (Figure 3). Agricultural drought occurs when the soil moisture is deficient, and this impairs crop and plant growth (National Drought Mitigation Center [N.D.MC], 2019). Thus, it is recommended that extension officers and development practitioners alike work closely with agricultural communities to identify agricultural drought occurrences which, unlike meteorological droughts, are usually not classified as a national emergency. This will likely facilitate the process of rendering swift assistance to poor subsistence farmers to drastically reduce the tendency for their livestock to become extremely susceptible to drought, as it was the case in 2015 when the government provided farmers with forage.

3.2. Households’ differential vulnerability to drought
Generally, the inability of households to access nutritious forage away from their customary locations in drought conditions was the resultant effect of one or several factors. For approximately 40 percent of participants, these factors were due to a combination of three or more factors. These include high dependency ratio at the household level (five and above); shortage of household labour; catering for a sick loved one; or the need to occasionally send remittances to an unemployed sibling and/or relative (Table 2). A characteristic feature of the households that fell within this bracket is the non-local elites. This is against the backdrop of the men and nearly all women active involvement in off-farm activities. The men engaged in domestic work like gardening in Nelspruit, while some worked in the mines. The women were mostly involved in petty trading.
such as the sales of homegrown leafy vegetables, clay pots, locally manufactured alcoholic drink and brooms. Their active involvement in the aforementioned craft and trades did not spare most of them from living below the global poverty line of less than USD 2.00 daily. Their cumulative monthly income, which include social grants (child support, elderly and disability grants paid by the government), was not enough to generate surplus income to facilitate the purchase of fodder in times of scarcity. This situation, however, was worse for female-headed households, in which women had the additional task of taking care of grandchildren, while receiving scant remittances from their children who worked in various South African cities.

Female-headed households’ involvement in petty trading, coupled with a shortage of household labour and caring responsibility inherently mean that, in times of forage scarcity, they had less time to guide their livestock to track forage away from their customary locations. As a coping strategy, some women rose before 7 am to shepherd their livestock to the banks of the Crocodile River (Figure 1)—approximately 2.5 km from Mpakeni—where there is a high possibility of accessing nutritious forage for livestock, before returning home by 10 am. In extreme drought conditions, when nutritious forage by the riverbank was depleted, the participants reported resorting to scavenging for forage while keeping their livestock in the kraal. Under such conditions, the tendency for animals to become emaciated is extremely high, which in turn drastically reduces their market value. This finding highlights the important role labour power plays in ensuring that a household can secure forage for its livestock, especially in times of drought. The role of labour power, in this regard, is acknowledged in studies conducted on the Tibetan Plateau (Yeh et al., 2014), in Kenya (Opiyo et al., 2015), Ethiopia (Abate et al., 2010) and Tanzania (Goldman & Riosmena, 2013).
### Table 2. Differential vulnerability to drought among non-elites in Mpakeni

#### Dimensions of differential vulnerability to drought

| Pseudonym  | Household-head | Involvement in off-farm livelihood activities | Remitting unemployed households occasionally | Households with high dependency ratio | Shortage of household labour | Care-given responsibility for sick/or elderly persons | Caring for grandkids while receiving little or no remittances | TIDM |
|------------|----------------|---------------------------------------------|---------------------------------------------|--------------------------------------|-----------------------------|---------------------------------------------------|---------------------------------------------------------------|------|
| Clara (F)  | Yes            | Yes                                         | √                                           | -                                    | √                           | √                                  | √                                                           | 4    |
| Rebecca (F)| No             | Yes                                         | √                                           | √                                    | -                           | √                                  | -                                                           | 3    |
| Agnes (F)  | No             | Yes                                         | √                                           | √                                    | -                           | -                                  | √                                                           | 3    |
| Thuli (F)  | Yes            | Yes                                         | √                                           | √                                    | -                           | √                                  | √                                                           | 4    |
| Kate (F)   | No             | Yes                                         | √                                           | -                                    | √                           | -                                  | √                                                           | 3    |
| Sarah (F)  | Yes            | Yes                                         | √                                           | √                                    | √                           | √                                  | -                                                           | 3    |
| Emma (F)   | Yes            | Yes                                         | √                                           | √                                    | -                           | √                                  | -                                                           | 3    |
| Martha (F) | No             | Yes                                         | -                                           | √                                    | √                           | -                                  | -                                                           | 3    |
| Justina (F)| Yes            | Yes                                         | √                                           | √                                    | -                           | √                                  | √                                                           | 4    |
| Cleo (F)   | Yes            | Yes                                         | √                                           | √                                    | √                           | √                                  | √                                                           | 5    |
| Thabiseng (F)| Yes       | Yes                                         | √                                           | √                                    | -                           | √                                  | √                                                           | 4    |
| Linda (F)  | No             | Yes                                         | -                                           | √                                    | √                           | -                                  | √                                                           | 3    |
| Lesedi (F) | No             | Yes                                         | -                                           | √                                    | -                           | √                                  | -                                                           | 4    |
| Annika (F) | Yes            | Yes                                         | √                                           | √                                    | -                           | √                                  | √                                                           | 4    |
| Elna (F)   | Yes            | Yes                                         | √                                           | -                                    | √                           | -                                  | √                                                           | 3    |
| Karabo (M) | Yes            | No                                          | √                                           | √                                    | -                           | -                                  | -                                                           | 3    |
| Michael (M)| Yes            | No                                          | √                                           | √                                    | -                           | -                                  | √*                                                          | 3    |
| Friedrich (M)| Yes         | Yes                                         | √                                           | √                                    | -                           | -                                  | -                                                           | 3    |
| Kaya (M)   | Yes            | Yes                                         | √                                           | -                                    | √                           | √                                  | -                                                           | 3    |
| Austin (M) | Yes            | Yes                                         | √                                           | √                                    | -                           | -                                  | √*                                                          | 3    |
| Syabonga (M)| Yes          | Yes                                         | √                                           | √                                    | -                           | -                                  | √*                                                          | 3    |
| Mpho (M)   | Yes            | Yes                                         | √                                           | √                                    | -                           | -                                  | -                                                           | 3    |

*TIDM = Total indicators of differences mentioned; F = Female; M = Male. √* indicate they assist their wives to look after the grandkids.
Labour power is an important determinant of livestock’s sensitivity to drought (Yeh et al., 2014). Arguably, paying greater attention to livestock during daily herding improves their weight and overall wellbeing, and consequently the likelihood of animals surviving forage shortages in drought conditions. The rhetoric that livestock owners are “servants of livestock rather than their owners” (Yeh et al., 2014, p. 70) aptly illustrates the labour-intensive nature of herding livestock to ensure that they thrive. It has been documented that having herders track forage when it is depleted in the communal grazing field is a more economically efficient strategy than pen-raising livestock (Abate et al., 2010; Goldman & Riosmena, 2013; Opiyo et al., 2015). Unfortunately, the aforementioned issues prevent some (especially female-headed) households from taking good care of their livestock. The participants reported that a shortage of household labour also prevented most female-headed households from participating in the weekly cattle dipping exercises on a regular basis.

In sharp contrast to the realities of non-local elites in Mpakeni, the local elites, which comprised six percent of the study participants (both men and women), were able to hire herders to look after their livestock. Thus, the livestock of the local elites rarely missed the weekly cattle dippings, which constitute part of a herder’s duties. In times of forage shortages, the herders were able to cover longer distances to source for nutritious forage. In this regard, a married female local elite employed in a government parastatal, whose husband also has a steady source of income, commented:

I do not worry about the welfare of my livestock during drought conditions because my herd-boy is very skilled and knows precisely where to source for forage.

It is worth highlighting that despite over 90 percent of participants being social grant recipients, the majority, especially the non-local elites, could not afford to hire herders to oversee their livestock during drought conditions, or to facilitate precision grazing in locations where forage was likely to be found. In addition, most could barely afford to purchase forage consistently in times of scarcity. In this regard, a respondent in her 60 s commented:

I am the household breadwinner and earn a living through petty trading, subsistence crops, and livestock production. I live with three of my children and one grandchild. Although I receive (a monthly) social grant, it is extremely challenging to make ends meet. Although one of my children works in a factory, he is unable to remit me regularly because this salary is meagre. In drought conditions, a family member shepherds the livestock to locations where nutritious forage can be accessed. Buying fodder from Koporas—a store in Mpakeni that sells agriculture-related products—is not feasible for me due to my present living conditions.

Indeed, the findings from this study suggest that social grants alone did not make the livestock of social grant recipients immune from being highly susceptible to excruciating drought conditions. According to Neves et al. (2009), the introduction of social grants in post-apartheid South Africa is one of the most significant interventions on the rural landscape, with implications for recipients’ participation in labour. Social grants serve as enabling resources, allowing beneficiaries to participate in subsistence livestock production, who would otherwise be too impoverished to invest in such ventures. The findings from this study also suggest that social grants provide the recipients with insufficient means of eking out a living. For example, some of the grant recipients highlighted that, due to the extreme drought conditions in 2015 and 2017, they could barely afford to purchase fodder to meet the nutritional requirements of their livestock. As a consequence, they were compelled to sell some of their livestock at discounted prices and to slaughter their frail livestock to feed their families. To treat livestock illnesses, those from poor households resorted to homemade herbal medication as a cheaper alternative to purchasing medication, which they claimed is “exclusively reserved for the local elites”.

Contrary to the realities facing poor households, the local elites supplement forage scavenging with regular purchases of fodder from Koporas when faced with extreme drought conditions. Further, some migrated their livestock during the 2015 and 2017 droughts to their relative’s homes, which is over
50 km from Mpakeni. To treat livestock illnesses, the local elites usually purchased proper medication, which is arguably more effective in combating livestock illnesses than herbal remedies (Masika et al., 2000). This ensured that the market value of their livestock remained relatively high throughout the year, as their livestock animals are rarely emaciated. Thus, it can be asserted that securing additional sources of income to generate surplus income (a feature associated with the local elites) is crucial for giving households agency to safeguard their livestock from being susceptible to the adverse effects of drought (see also Shackleton et al., 2014).

3.3. Broader determinants to drought vulnerability

According to the participants, prior to the establishment of the Mthethomusha Game Reserve (Figure 1), households had unrestricted access to vast hectares of land rich in vegetation and nutritious forage—the reserve reportedly hosts three distinct vegetation types which are not available outside the reserve. Thus, regardless of whether or not forage was scare in the customary locations, poor farmers entered that area with their livestock in search of more nutritious forage options. However, the establishment of Mthethomusha game reserve “blocked” access by means of perimeter fencing. The study participants added that although the reserve is fenced, their quest to prevent their livestock from becoming emaciated—especially in times of forage scarcity triggered by drought—led them to use unauthorised access routes into the reserve to seek forage. As a male respondent who had resided in Mpakeni for over 30 years, explained:

It is the fundamental right of community members to access the reserve by any means necessary because the reserve representatives only consulted with the traditional authorities prior to the approval of the game reserve.

The participants failed to see why they should be “unjustly” deprived of a space they previously had access to and would cross the boundary regardless of whether or not the management of the reserve consent to it. The drawback is that there have been instances of wild animals in the reserve preying on some of the community’s livestock. The participants acknowledged that the reserve’s management pays compensation to those whose livestock have been killed (approximately R8 000 or USD 600.00). The difference, however, is that those who are compensated swiftly, tend to have social links with the induna, as “he would vociferously plead their cause with the reserve management”. Arguably, the powers of the induna to sway decisions in favour of those with ties to him could be hinged on the reserve trying to reciprocate the “generosity” of the chief who allocated the land where the reserve is now situated. In addition, some participants explained that when the livestock of the local elites are preyed upon by wild animals, those individuals are compensated swiftly, because they know their rights and, hence, know the precise steps to follow to lodge a complaint. In other words, being a local elite creates an avenue through which households are able to contest the wild animals “exploitation” of their livestock with the relevant authority when such an event occurs in order to receive their rightful compensation. This ensures that their wealth is not depleted, which is in sharp contrast to the realities confronting the poor.

The double dispossession dilemma—not having social ties with the induna and being non-local elites—of poor households has severely compromised their options in terms of accessing nutritious forage for their livestock. Those who are willing to risk venturing into the game reserve become further impoverished if a wild animal kills their livestock: after all, the death of a livestock can severely compromise the livelihood objectives and aspirations of poor households, which may, in turn, see them spiral deeper into poverty. Thus, it was not surprising to note that the participants were deeply enraged whenever the issue of the reserve came up, arguing that, it has been a curse rather than a blessing to the non-local elites.

3.4. Identity politics and forage access

Both the TLGFA and CLRA vest enormous powers in traditional leaders to dictate the allocation of, and use rights pertaining to communal land (Bennett et al., 2013; Mnwana, 2015). In Mpakeni, one way in which the induna has asserted his authority as the custodian of communal land is by appropriating vast hectares of—through perimeter fencing—and reserving the right of access for
the exclusive use of his livestock. To concretise his authority in terms of land allocation and use rights, stringent penalties are imposed on anyone who unlawfully enters appropriated land to seek forage. This serves as a deterrent, although some study participants stated that the penalties do not apply to the induna’s relatives. In this regard, a respondent who has resided in Mpakeni for over 20 years, commented:

Mpakeni has always had designated plots reserved exclusively for the induna, where only his livestock graze. If any community member violates this statute, s/he is mandated to pay a fine of R500.00 (approximately USD 36.00) or give one of his/her livestock to the induna. In times of scarce forage, the restriction further dampens the poor’s ability to cope. The induna benefits unjustly from poor people, without any regard for their prevailing economic circumstances.

Failure to pay the fees levied on trespassers could result in the traditional authority taking the hard-line approach, as one participant explained, of banishing the offender from Mpakeni. Such drastic measures are, however, rarely enforced, and seem to be applicable only to those considered to be migrant settlers in Mpakeni despite being natives of South Africa. For instance, as one participant stated:

I know of a family that violated the law by allowing their cattle to graze on the field designated for the induna. The family, who were commoners and had not resided in Mpakeni for up to five years at the time, were not aware of the laid-down restriction. The family refused to pay the fine levied on them, which, unfortunately, resulted in their banishment from the community.

Some households’ ability to successfully challenge the authority of traditional leaders hinges on the close-knit relationships and social links which they have forged with members of local civil society institutions such as ward councillors and farmers’ organisations for years since some of the people who comprise the aforementioned groups are indigenes of Mpakeni. Thus, a plausible reason why a family may have been successfully banished from Mpakeni is because of the household’s identity as a migrant settler. Arguably, significant differential preferences persist with regards to the way in which indigenes of a community and migrant settlers’ access communal resources (Dinko et al., 2018). Also, this finding challenges the assumption that the use of a quantification approach whereby policies apply homogeneity to every household within a society may be inadequate to bring this issue—likely to be peculiar to migrant settlers in any agrarian society—to the fore. Nonetheless, any local political structure that deliberately or inadvertently impedes the rural poor including migrant settlers from having full access to communal resources could significantly jeopardise efforts to combat poverty. This, in turn, makes the poor more vulnerable, while those with social links to members of the Mpakeni tribal council are less vulnerable, as the penalty does not apply to them.

The flourishing of this structure, which prevents poor households from accessing appropriated communal lands, may be indicative of the fact that finding innovative ways to upscale the diverse benefits of subsistence livestock production for poor households by rural developers is not perceived as an effective strategy to eradicate rural poverty. Also, rural developers may not be cognisant of the adverse impacts such enclosures have on poor households’ ability to access forage for their livestock. In addition, existing legislations have failed to create a legitimate platform through which households can contest the decisions of traditional leaders, especially when decisions taken are perceived to be in violation of the powers conferred on traditional leaders as the custodians of communal lands (see also Bennett et al., 2013; Hall & Cousins, 2013; Mwana et al., 2016; Musavengane & Simatele, 2016; Tantoh et al., 2020; Yeni, 2018). Parallel scenarios have played out in other communal lands that have been appropriated and converted into mining hubs, to the detriment of poor households’ livelihoods (Capps, 2018; Classens, 2012; Leonard, 2018; Manson, 2013).
This finding reinforces both Agrawal's (2008) and Tantoh et al. (2019) assertion that local institutions such as traditional leaders mediate access to, and the use of resources at the local level. This may have significant implications for the adaptive options which households choose in the face of climatic risks. Further, the results of this study support the claim that land tenure insecurity is a core challenge affecting residents of communal areas, which exacerbate the vulnerability of historically marginalised groups and places them at increased risk of exploitation and dispossession (Classens, 2014). Moreover, the absence of tenure security has aggravated the socioeconomic disadvantages vulnerable groups in communal areas face, since poverty and deprivation remain widespread. This is evident in the prevailing socially constructed and politically reinforced inequalities, which have resulted in unequal access to, and use rights of, communal land in Mpakeni.

4. Conclusion: pulling the pieces together

In this article, we have highlighted the need for a differentiated vulnerability approach to climate vulnerability analysis. This has been done by documenting the various ways in which subsistence livestock farmers in Mpakeni, South Africa, strive to access forage in times of drought. By showcasing non-local elites' heterogeneity, this article highlights some limitations of vulnerability research that often ties livestock farmers' inability to access nutritious forage to residing in locations susceptible to drought (e.g., see Agrawal, 2008), and treat women and men as homogenous groups. As Nyantakyi-Frimpong (2019, p. 15) argues, “while inequalities between women and men may deeply shape vulnerability to climate risks, other social differences may be equally or even more important than just these two binaries”.

Drawing on a PEF, findings suggest few men and women—the local elites—and were able to hire herders who were able to cover longer distances to source for nutritious pastures when depleted in its customary location. This is primarily due to their financial stability that allows them to generate surplus income. For the non-local elites, however, the combination of being the household head, high dependency ratio at the household level, caring for an elderly/or grandkids and occasionally remitting siblings and relatives despite engaging in off-farm activities and receiving social grants, made it impossible to hire herders. Also, the involvement in off-farm activities reduces the time allocated to shepherd livestock to locations such as the banks of the Crocodile River—about 2.5 km from Mpakeni—when there is a higher chance of nutritious forage when depleted in communal grazing fields. In extreme drought conditions, when forage by the riverbank was depleted, the non-local elites resorted to scavenging for forage while keeping their livestock in the kraal. As several studies show (Abate et al., 2010; Goldman & Riosmena, 2013; Opiyo et al., 2015), tracking forage when depleted in customary locations is a more economically efficient strategy instead of pen-raising livestock.

Another factor that sharpened the divide between non-local elites, the local elites and those with social ties to the induna (headman) was regarding how households get compensated when their livestock was devoured by a wild animal in Mthethomusha Game Reserve. Before its establishment, households had unrestricted access to vast hectares of land where the game reserve is situated, which is rich in vegetation and nutritious forage. However, following the establishment of the reserve, perimeter fencing was set-up to prevent unrestricted access. Despite the fencing, the quest to ensure livestock are not emaciated forces some poor households and herders gain entry through unauthorised access routes. The issue is that whenever their livestock are preyed upon by a wild animal, only those with social ties to the induna and local elites are compensated swiftly. The swift compensation of the local elites, as some participants highlighted, is because they know their rights and, hence, know the precise steps to follow to complain. As some highlighted, the establishment of the reserve has been a curse for poor people.

Further, non-local elites' livestock vulnerability to drought was entrenched as the induna holds sway over communal assets, as enshrined in TLGFA and CLRA, respectively. This enables him to dictate entry to specific locations within the community cordoned for himself, thereby permitting only those with social ties to him entry into such areas to access forage for their livestock. Consequently, the poor and vulnerable migrant settler, unable to purchase fodder for their
able to purchase fodder for their livestock in drought conditions, are subjected to his whims and caprices without any further recourse or redress. Although poor households—indigenous of Mpankeni—often get away without fees meted on them due to the relationship forged with members of local civil society to plead their case, it is a different reality for migrant settlers. Failure to pay the required fee could result in banishment. The absence of a legitimate platform to contest the governance of communal land will continue to undermine the ability of vulnerable groups to realise the maximum benefits which livestock production has to offer.

In light of the above, it is important for contextual issues at the local level to be put into perspective, if appropriate strategies and policies are to be implemented to effectively tackle households’ livestock vulnerability in the face of drought. Admittedly, such vulnerabilities may be nuanced and may slightly differ from one community to the next. It is, therefore, recommended that policy reforms in respect of communal land clearly articulate grounds for community members to contest traditional leaders’ decisions regarding the use and accessibility of communal resources, especially if restricting access to specific locations pose a threat to livestock production. It is crucial to ensure that poor households can continue with livestock production, especially since droughts are expected to worsen in the foreseeable future. Also, all-encompassing legislation is desperately needed to protect the rights of migrant settlers residing outside of their native homesteads. This is because existing legislation undermines their right to lay claim to communal property, which may continue to see them being categorised as “foreigners”.

Notes
1. Meteorological drought occurs when dry weather patterns dominate an area (National Oceanic and Atmospheric Administration [NOAA], 2019). Thus, meteorological drought is “region specific, since the atmospheric conditions that result in deficiencies of precipitation are highly variable from region to region” (National Drought Mitigation Center [NDMC] p. 1). For the purpose of this article, drought refers to meteorological drought, unless stated otherwise.
2. Local elites are the educated minority who receive a regular income courtesy of their ability to secure government jobs by working as nurses, municipal accountants, teachers or administrators (Cousins et al., 2018).
3. Induna is an isiZulu word which means headman.
4. Although the Department of Environment, Fisheries and Forestry (DEFF) provided supplementary feed to assist subsistence livestock farmers in ameliorating the shortage of nutritious forage during the 2015 drought, the participants bemoaned the fact that the supply was both inadequate and irregular.

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Correction
This article has been republished with minor changes. These changes do not impact the academic content of the article.

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