



GTAC/CBPEP/ EU project on employment-intensive rural land reform in South Africa:
policies, programmes and capacities

Municipal Case Study
Inkosi Langalibalele Local Municipality
KwaZulu – Natal

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Abbreviations and acronyms

ARC	Agricultural Research Council
CAHW	Community Animal Health Worker
CPA	Communal Property Association
GAP	Goat Agribusiness Project
ILLM	Inkosi Langalibalele Local Municipality
KZN	KwaZulu-Natal
LSU	Large stock unit
MRDP	Mdukatshani Rural Development Programme
NRF	National Research Foundation
PPR	Peste des petits ruminants

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Executive summary

This report presents a case study of Inkosi Local Municipality in KwaZulu-Natal. The goal of the report is to examine the employment creation potential of land redistribution in Inkosi Langalibalele, and its cost.

The Inkosi Langalibalele Local Municipality is located within the Uthukela District Municipality, in a broader region known as the KwaZulu-Natal Midlands. Agriculture is the predominant form of land use in the local municipality, but it does not generate a large number of jobs. Large-scale commercial farming remains important but is shrinking due to land reform, which affects around 38 percent of the land in the municipality. Another 36 percent of the local municipality is designated as 'communal areas', with traditional authority structures playing a key role in their governance. Only 27 percent of the municipality, or around 100 000 hectares, is available for further land reform.

The local municipality had a total population of 215 183 persons in 46 952 households in 2016 and comprises 3 403 square kilometres, with a population density of 63.2 people per square kilometre. Only around one fifth of the adult population aged 15 or more are employed, compared to 23 percent in Uthukela district municipality, and 31.5 percent in KZN. Of those employed, 74 percent work in the formal sector. Over half of the population (52 percent) is 'not economically active', but many of these are engaged in subsistence-oriented agriculture, mainly in order to produce some additional food for home consumption. The great majority of the population in Inkosi Langalibalele is poor and highly dependent on social grants, and services have improved greatly since the advent of democracy in 1994. Despite the rural nature of the municipality, settlement patterns are increasingly dense and 'urban' in character, even some distance away from established towns. Large areas comprise densely settled communal areas under traditional councils.

Annual rainfall is higher in the west of the municipal area (at 1200 mm p.a.) but highly acid clay soils carry unpalatable highveld grasses. In the east of the municipality, annual rainfall is low (450-600 mm p.a.) and the vegetation is characterised by valley bushveld and sweetveld savannah, which are much more palatable for livestock. In 2014 cultivated land represented around 11 percent of the total land in the municipality. Only 2 841 ha were irrigated, comprising less than 7 percent of cultivated land, and 0.74 percent of the total area.

In relation to land reform, the areas under restitution claims and areas of transferred land amount to around 128 000 ha, or 38 percent of the municipal area. Game reserves and traditional authority land make up another 36 percent of the municipality. Continuing claims to such land by local 'tribes' or 'traditional communities', whether registered as restitution claims or not, mean that allegiance to such groups would probably have to be a prerequisite for gaining access.

Most land reform farms are now large-scale, extensive cattle and goat farms, with very few, if any, cultivating crops. They are rapidly undergoing bush encroachment related to climate change, and are thus becoming less suitable for beef cattle and more suited to smaller ruminants, such as goats, or wildlife. All farmers that were interviewed were interested in acquiring land for livestock production, and maintaining a lifestyle felt to be the opposite of the 'peri-urbanisation' caused by forced evictions in the apartheid past. Some dryland cropping had been initiated on land reform farms, but in the current 6-year drought this has tapered off, as have the number of oxen trained to plough. Mechanisation has been attempted in various parts of the municipality, but has failed to date. There is little irrigable land left in the area to hand over through land reform, and traditional boundaries mean that beneficiaries need to be of the right tribe and ward to gain ownership of it. Also highly complex is the issue of to whom the state is handing over the land. Traditional

Authorities, Traditional Councils and CPA committees all contest for land ownership, power and authority.

In relation to small-scale farming, there is very little dryland cultivation of food or other crops by small-scale farmers in this municipality. Households in dense settlements depend for their income on a combination of wages, remittances and social grants, rather than agriculture. Some own livestock, mainly cattle and goats, and many own small flocks of indigenous chickens. The only form of cash cropping by small-scale producers on a significant scale is the production of fresh vegetables (including green maize), in areas where irrigation water is available.

Key features of the Tugela Ferry Irrigation Scheme in Msinga, located outside the boundaries of the municipality, are relevant here, since they influence the aspirations of farmers interested in land reform. The scheme is amongst the largest in the province, and supplies water to an area of approximately 840 hectares of high potential soils, of which around 540 hectares are currently under cultivation. These constitute around 12 to 16 percent of all the small-scale irrigation farmers in the province. Larger producers have expressed interest in expanding their scale of production, but opportunities to do so on the scheme are extremely limited, and they express a desire to acquire around 10 to 15 hectares of land each through land reform. Around Weenen, where the irrigated areas are concentrated, farms are owned by around ten white and three black commercial farmers, averaging around 60-80 ha each. The main crops produced are potatoes and cabbages, plus butternuts, beans, green maize, groundnuts, beetroots and green peppers. The farms of small-scale, black commercial producers in Weenen generate around 300 person days of employment per ha, as compared to 100 person days per ha for large-scale producers

In relation to livestock, producers tend to be older men who have accumulated wealth as migrant labourers in big towns, and have come back to live at home, while the next generation work in urban areas. Key livestock functions are producing food, generating income, providing manure, traction and transport, financial services such as savings, and enhancing social status. Local cultural demand for live goats in South Africa currently exceeds the supply, and the informal live market pays higher prices than the formal mutton and goat abattoirs can offer. The informal goat meat market in South Africa is a market that is unknown, untaxed and unregulated. At least a million goats a year are slaughtered in KwaZulu-Natal, and many hundreds of thousands more among the other Nguni tribes, exclusively for ceremonial purpose and thus at people's homes, with none of this meat being sold. Over 30 in-field interviews were conducted in the study. These included senior and middle level government officials, farmer association members, and farmers (both commercial and small scale) producing livestock and vegetables. The livestock farmers interviewed included land reform beneficiaries, private landowners and farmers living on communal land. The interviewees all agreed that the current land reform process does not support farmers but rather creates villages of disparate residents who have very different outlooks and needs, and that it would be more useful for them to have access to land for market-oriented production. The farmers recognised that moving onto this high potential land would mean moving away from established infrastructure, and would thus disrupt family life. Most of the farmers interviewed described an interest in collaborating with other farmers on a piece of land rather than owning a piece of land by themselves. They also described the issue of tribal identity that led to labelling of 'insiders' or 'outsiders' as being the main factor that has stopped them from trying to acquire more land in this municipality.

For land reform to work, existing smallholder farmers would need to self-select into two groups: (a) resident small-scale farmers who market crops or livestock on a regular basis, and (b) aspirant larger-scale commercial farmers. The latter comprise those who would be prepared to be geographically unanchored and be able to scale up their farming systems. These farmers would need

support from local authorities, to be able to farm without needing to change their cultural identity and to be accepted in the area where they intend to farm.

Extensive livestock production by small-scale farmers has the highest potential for job creation in the local municipality. An analysis of existing problems and solutions suggests steps that could be taken to unlock this potential. For example, a key problem is that at present there are no commercial African farmers producing livestock on land reform farms. The solution would be develop this class of farmer, by working with self-selecting beneficiaries who want to upscale and commercialise; by linking these farmers to speculators; and by agreeing on an approach to improving productivity that works within environmental limits and parasite loads. This study thus recommends that a new system to support small-scale agriculture, with a particular focus on livestock, be established. A new government extension model could also be used to support cropping systems. All future land reform projects that transfer arid or semi-arid land could make use of the model to support beneficiaries in creating small businesses.

To fully realise the potential of small-scale livestock production, value chains would need to be developed, both to supply these farmers but also to increase offtake. A potential value chain with contributions from all three tiers of government, as well as commercial players, support industries and farmers, is recommended.

Bringing together the land potential, the value chain and jobs at the level of production, job creation potential is estimated across the municipality. The land base includes land already redistributed and often lying moribund, as well as so-called 'nature reserves' that people were forcibly removed from in the past. We also include potential jobs in vegetable production by small-scale producers, which are to be found in small areas of irrigation or on flood plains on farms. All our estimates are based on redistribution of 50 percent of this land base.

The estimated potential job creation impact of land redistribution in Inkosi Langalibalele Local Municipality is considerable. The number of net jobs that could be created through land redistribution amounts to 1 392 in livestock production and 830 in irrigated vegetables, a total of 2222 jobs. The average cost of this per net job would be R325 435. If livestock value chain jobs were included, at an average of 5.5 jobs per 100 LSU farm unit, then total net jobs created would amount to 3 498, at an average cost of R206 723 per job.

1 Introduction

This report has been commissioned as part of the CBPEP/GTAC Project on ‘employment-intensive’ rural land reform, with a strong emphasis on land redistribution. The Government Technical Advice Centre (GTAC) has embarked on a Capacity Building Programme for Employment Promotion (CBPEP) over four-and-a-half years. This project aims to:

- Develop policy proposals for employment-intensive options for a rural land reform programme focused on black smallholder¹ and small-scale commercial farmers², aimed at enhancing the incomes and livelihoods of large numbers of beneficiaries
- Explore the design and cost of programs to implement these policies, including the building of appropriate institutional capacities within government, its partners and beneficiaries.

The project commenced by commissioning a number of commodity³ and thematic studies⁴ to provide background on key issues and elements of policy and programme design. This has been followed by studies in four selected local municipalities: Inkosi Langalibalele (Kwazulu-Natal Province); Greater Tzaneen Municipality (Limpopo Province); Matzikama (Western Cape Province); and Sakhisizwe (Eastern Cape Province). Inkosi Langalibalele Local Municipality is the focus of this report. These local municipality studies are intended to:

1. identify current farming systems and land capability classes;
2. assess the potential for smallholder and small-scale commercial farming systems on redistributed land;
3. assess the feasibility of different policies and programs;
4. quantify the costs of these policy options and programs; and
5. provide policy recommendations to guide and inform national (and provincial) policy.

These studies draw on existing research material whenever possible, and aim to extend the knowledge base through intensive field work over several weeks in each site. This process has sought to identify a range of context-specific challenges, which inform its recommendations. The Inkosi Langalibalele (ILLM) study has involved both desktop research and a range of interviews and consultations with a diverse set of role players at the local level. The study includes a rapid assessment of the status quo in the local municipality, including existing land uses, land capability classes, land ownership and patterns/values; available irrigation and groundwater resources and their utilisation; the outcomes of existing land reform initiatives (redistribution, restitution and land tenure reform) and farmer support services; the dynamics of market access for small-scale farmers; current institutional arrangements to support land and agrarian reform; the current functioning of land holding entities (CPAs and Trusts); and the nature of land demand in the municipality.

This analysis has informed the development of various options for embarking on a labour-intensive land redistribution programme in ILLM, which are presented in the final sections of this report. The ILLM Study, together with the other three municipal case studies will contribute lessons, issues and

¹ *Smallholders* are farmers who rely mainly (but not exclusively) on household labour in their production systems.

² *Small-scale black commercial farmers* are farmers who rely mainly on hired labour in their production systems. The degree to which they are capitalised falls within the bottom third of all commercial farming enterprises producing similar products in South Africa.

³ Focused on the employment and livelihood potential of small-scale farmers producing livestock, wool, sugar, fruit and fresh produce.

⁴ The emphasis was on land tenure and administration, support capacity, financing, value chains and socio-cultural aspects of land.

approaches which will be incorporated into a 'framework policy and guidelines document', which will be the final output of the CPEP/GTAC project.

Section 2 Status quo describes the Inkosi Langalibalele Local Municipality. It focuses on the rural/urban split in this municipality, the education and unemployment levels as well as geographical features that would need to be understood to support agriculture, including reserves and water resources. The focus of this project is the future of land reform and this section also describes where land reform has been done, what historical and political context led this land reform, the current state of land reform farms and finally what land would be available for further land reform. The farming systems of the area are described and discussed largely separated between field or crop farming and livestock farming. The report touches very briefly on commercial farming ventures in the area.

Section 3 Analysis goes through the varieties of options that could be considered for land reform planning in this municipality in the future and suggests that it could be done in other municipalities with the same resources. The scaling up is premised on a change of extension system for land reform beneficiaries. It then recommends future farming that could be done by livestock farmers on land reform farms as this area is mainly a livestock area. It then goes into estimating what sort of parcels of land and what types of livestock would lead to different scales of employment or job creation. A possible future value chain around the livestock commodity is described and proposed.

2 Status quo

2.1 *Descriptive overview of the local municipality*

The Inkosi Langalibalele Local Municipality (ILLM) is one of four local municipalities in the Uthukela District Municipality in KwaZulu-Natal, in a broader region known as the KwaZulu-Natal Midlands. Estcourt and Weenen are the two largest urban centres. Both towns have a shrinking retail and industrial centres, and rapidly expanding invasion and settlement of town lands. Estcourt has a very large established township known as Wembezi, located some 20 kms from the town centre, which is also in decline as people move closer to town. Next to this is a very large rural (and to some degree peri-urban) settlement, Hlathikhulu. The N3 national highway from Durban to Gauteng runs through the centre of the ILLM.

Agriculture is the predominant form of land use in the ILLM, but without generating large numbers of jobs. Large-scale commercial farming remains important, but is shrinking due to land reform, which affects around 38 percent of the land in the municipality. Another 36 percent of land is designated as 'communal areas', with traditional authority structures playing a key role in their governance. Only 27 percent of the ILLM, or around 100 000 hectares, is available for further land reform, and some of this has assumed an urban or peri-urban character, or might not be suitable for land reform purposes for one reason or another.

Land and agrarian reform is seen as important by the municipality, assuming an important role in the Integrated Development Plan, but this lacks convincing detail. The problematic nature of land reform to date is widely acknowledged by key role players in the ILLM who were interviewed in the course of the study.

Figure 1: Map of ILLM municipality



2.1.1 Overview of socio-economic conditions in the local municipality

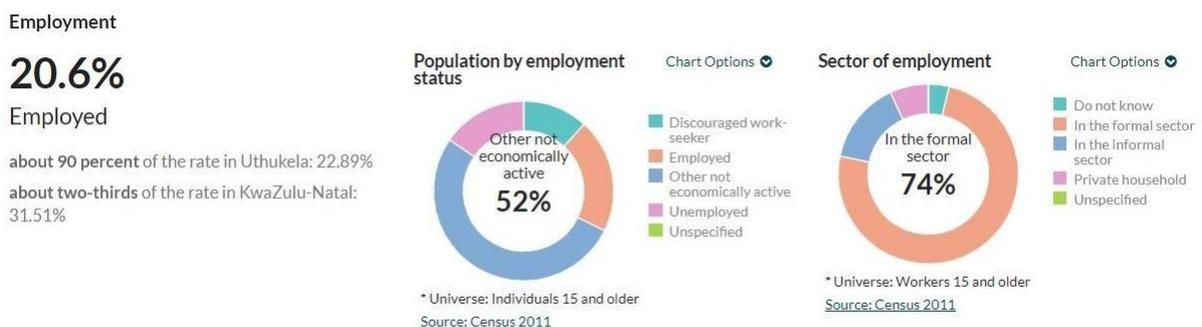
Inkosi Langalibalele Local Municipality (ILLM) had a total population of 215 183 persons in 2016, the year of the last Community Survey undertaken by StatsSA (accessed via wazimaps). It comprises 3 403.3 square kilometres, with a population density of 63.2 people per square kilometre. There are 46 952 households in ILLM, about one quarter of the district municipality’s population. The average size of households is 4.58 people per household. A large proportion of the population (48 percent) are 19 years or younger. Over half of all households (53 percent) are female headed, probably indicating the continuing decline of marriage amongst the African population (Hosegood 2013). The great majority (89 percent) are isiZulu speakers.

A small proportion (2.7 percent) of the population live in informal dwellings (shacks), whereas 59 percent live in houses and about 30 percent live in ‘traditional’ homes. Of those owning houses, 89.5 percent either own their houses or are paying off loan or mortgage.

As shown in Figure 2 below only around one fifth of the adult population aged 15 or more (20.6 percent) are employed, compared to 22.89 percent in Uthukela district municipality, and 31.5 percent in KZN. Of those employed, 74 percent are employed in the formal sector. Over half of the population (52 percent) is ‘not economically active’, but many of these are engaged in subsistence-oriented agriculture, mainly in order to produce some additional food for home consumption.

Of those who are formally employed, the average income is R30 000 per annum. However, the average annual income for all households in the ILLM is only R14 600 per annum, or R1 217 monthly. Around one third (35 percent) of households receive less than R10 000 per year, (R833 per month), 57 percent receive less than R20 000 per year (R1388 per month), and more than two thirds (68 percent) receive less than R40 000 per year (R3 333 per month).

Figure 2: Employment data for ILLM



Source: <https://wazimap.co.za/profiles/municipality-KZN237-inkosi-langalibalele/>

Almost all adults (95 percent) own cell phones, and 40 percent of the population have access to the internet through these cell phones. Many (70 percent or more) own fridges, radios, stoves and a TV set.

Around three quarters of households (74.4 percent) are supplied with water from a regional or local service provider, but less than a third (29 percent) have piped water inside their properties. A small proportion of households (11.2 percent) have no access to electricity, and 80 percent have access via an in-house, pre-paid meter. Only 38.1 percent of households have access to flush or chemical toilets, while 53 percent have a pit toilet and only 1 percent have no access to any kind of toilet. 20 percent get refuse disposal from a local authority and 68 percent dump their own rubbish.

The population is relatively well educated, with over two thirds (68.7 percent) have completed Grade 9 or higher. 40.5 percent have completed Matric or higher. 11 percent have no education.

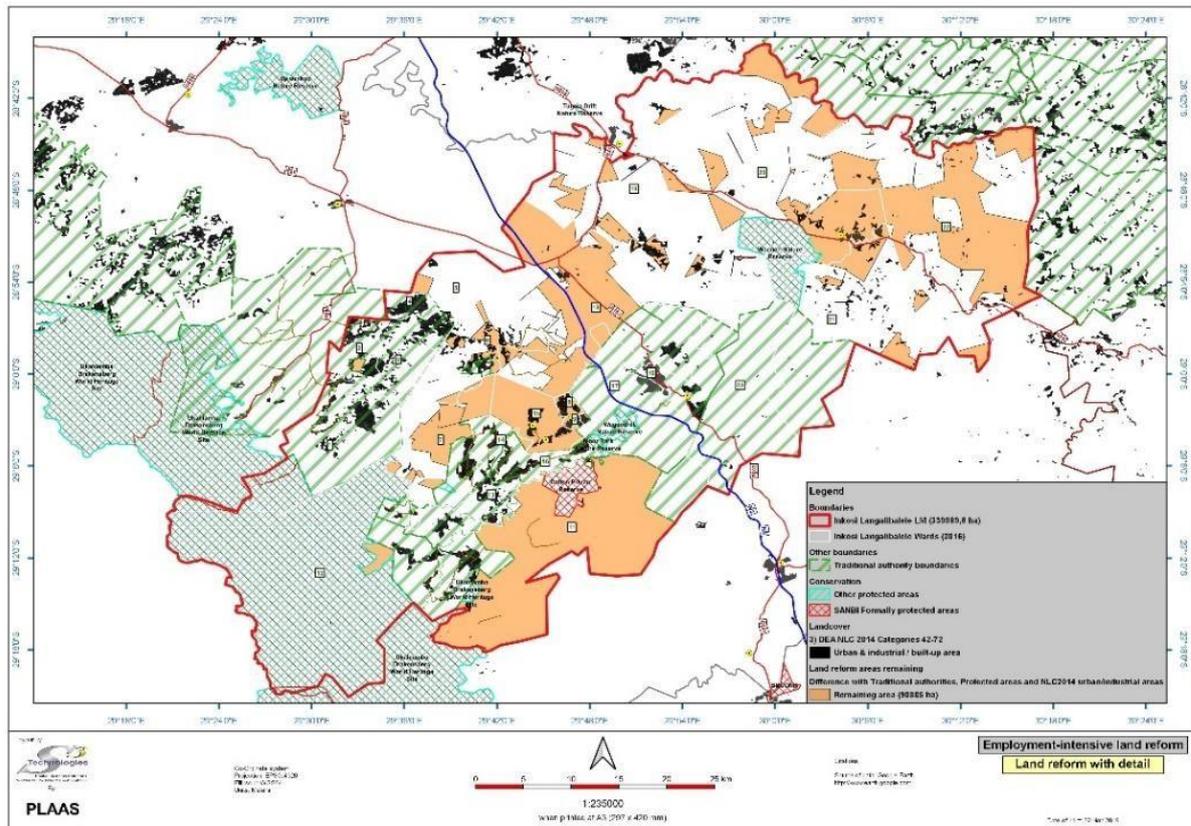
There are 98 909 children in the ILLM, about a third of those found in Uthukela district municipality. The great majority (85 percent of the total) have both parents, and only 1.2 percent of the children under 14 have no parents. The vast majority (93.4 percent) of school-aged children (i.e. from 5-17 years of age) are in school, and 88 percent of 17-year olds have some form of secondary schooling. Around 12 percent of children aged 15-17 are active in the labour force, with an average income of R2400.

The great majority of the population in ILLM are poor, without access to secure and well-paid employment, and highly dependent on social grants. Services have improved greatly since the advent of democracy in 1994, but employment opportunities are very scarce. Agriculture is not a significant source of income for most of the population, despite the rural nature of the municipality, and settlement patterns are increasingly dense and 'urban' in character, even at some distance away from town. Land reform has not succeeded in altering the socio-economic structure of the ILLM (see discussion below) to date.

2.1.2 Settlement patterns

Figure 3 below shows built-up urban and industrial areas in the ILLM. These are found not only in the small towns of Estcourt and Weenen, but also in densely settled communal areas under chiefs and traditional councils. These are notionally 'rural' in character, but in fact have many of the characteristics of urban settlements. Very little market-oriented crop production takes place in these settlements, with none having access to irrigation water. The most significant form of agriculture is livestock production, in the form of cattle and goat herds, with some of the larger herd owners being market-oriented. There are active markets for livestock, with many purchased for slaughter in traditional ceremonies.

Figure 3: Built-up (residential and industrial) areas in ILLM



2.1.3 Agro-ecological conditions, existing land uses and capability classes

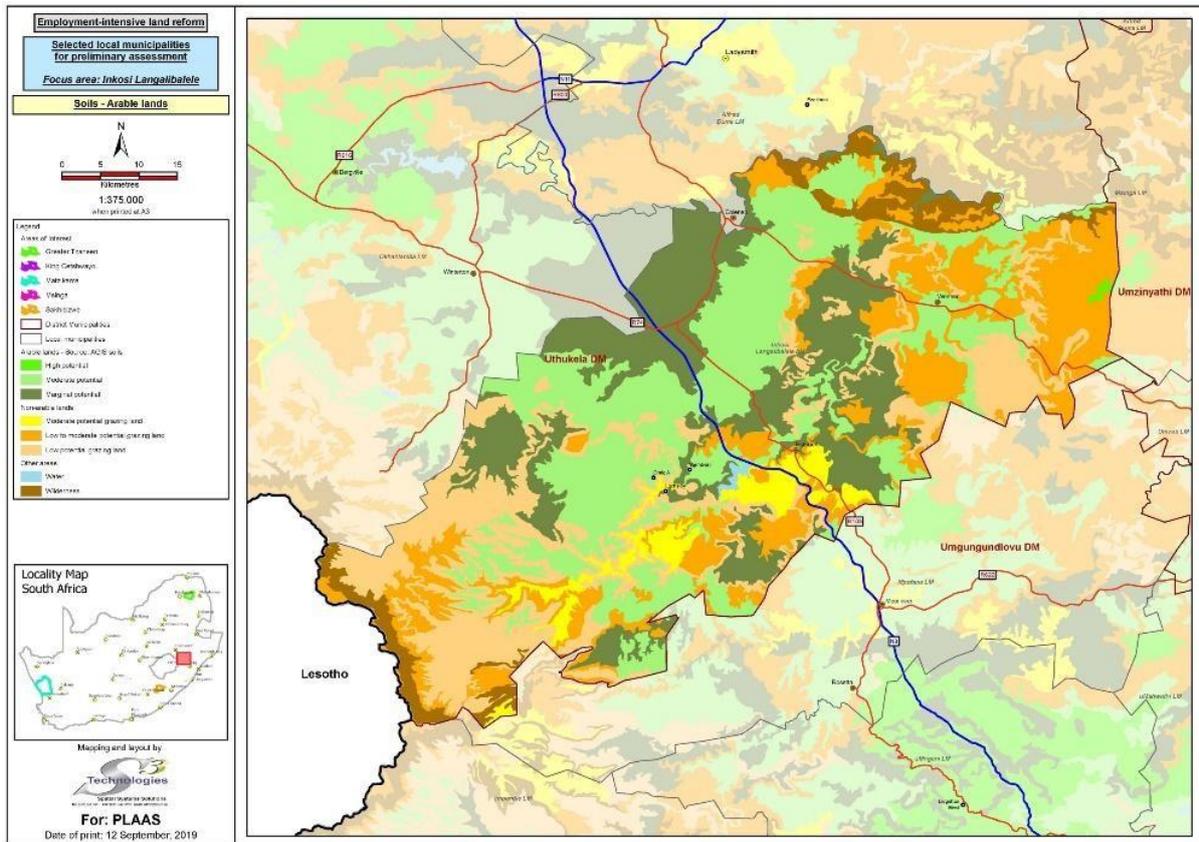
Topography

The topography in the ILLM ranges from 648 meters above sea level to the high Berg areas at 2500 meters and above. Annual rainfall is higher in the west of the LM (1200 mm p.a.) but as a result, has highly acid clay soils that carry unpalatable highveld grasses. In the east of the ILLM, the lower areas have lower annual rainfall (450-600 mm p.a.) and the vegetation is characterised by valley bushveld and sweetveld savannah, which are much more palatable for livestock.

The Drakensberg Transfrontier Park covers the whole of the western boundary of the ILLM, mainly within the Giants Castle Nature Reserve. Farms bordering this park are also regulated by 'buffer area' rules for land use, and by the *Drakensberg Approaches Policy* of 1976. This places limits on most types of intensive agriculture, in order to support the Drakensberg's role as the main source of water in South Africa.

Figure 4 below shows that areas with high agricultural potential, especially in relation to arable land, are in short supply in the ILLM.

Figure 4: Agricultural potential in ILLM



The area of land under cultivation is shown in Table 1 below. The data sets from which these data are taken indicate that the total land area in the ILLM is 379 064 ha, and in 2014 cultivated land represented around 11 percent of the total. Only 2 841 ha was irrigated, under 7 percent of cultivated land, and 0.74 percent of the total land in the ILLM. (Note that these proportions are very similar to those for the country as whole.)

Table 1: Agricultural land use (cultivated land) in ILLM (2014)

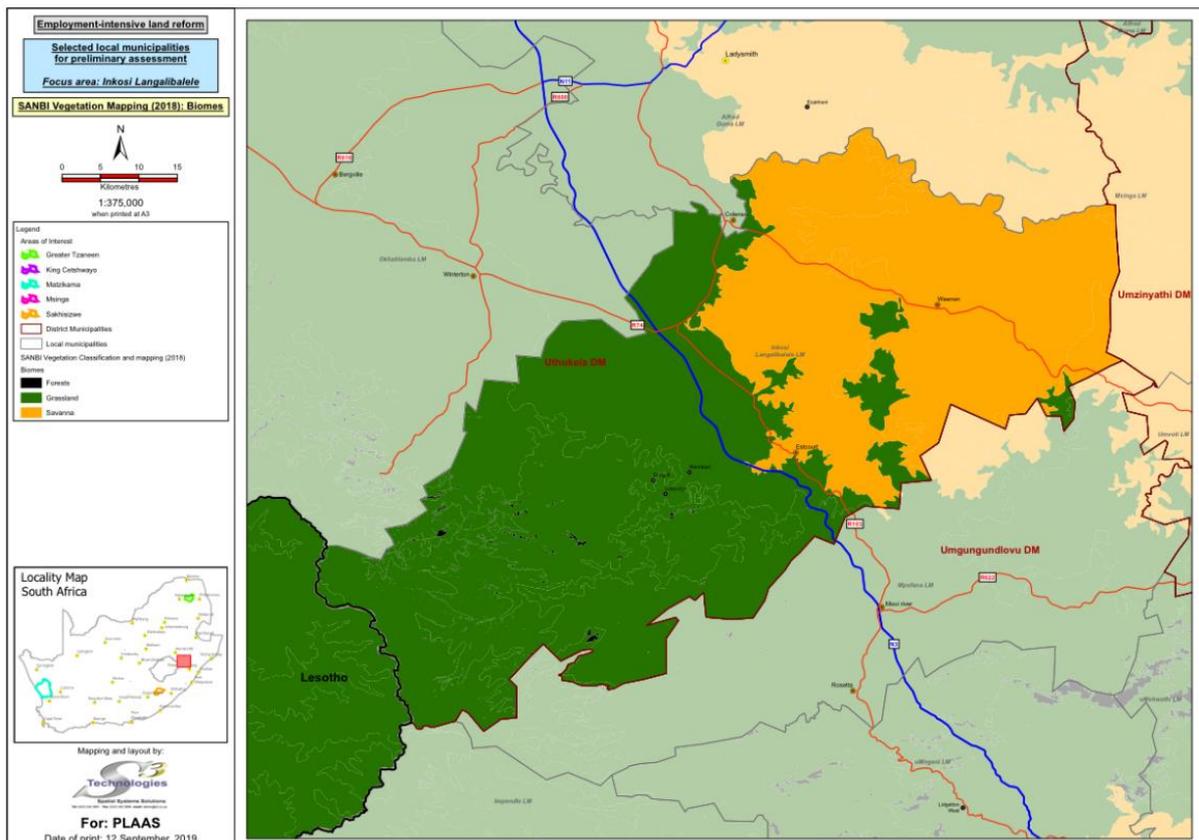
Land use	ha	percent
Commercial Annuals (rainfed)	15 541.6	37.1
Commercial Pivots (irrigated)	2 841.2	6.7
Forests	8 659.5	20.7
Permanent Crops (orchards)	509.4	12.2
Subsistence (cultivated)	14 303.2	34.2
Total	41 854.9	100

In relation to land suitable for livestock production, Table 2 shows that in 2014 around 71 percent of the land in the ILLM could be used for grazing, and that 78 percent of this was in the form of grassland, with much smaller areas designated as bush or woodland. However, the areas to the east of the ILLM are increasingly dominated by bush and thicket, through the process known as ‘bush encroachment’, and these proportions have probably substantially altered by now (assuming they were accurate to begin with). Another map of natural vegetation habitats ‘(biomes)’, shows that savannahs, or areas with a mix of trees and grass, predominate in the eastern section of the ILLM, on about 40 percent of the total area (see Figure 5 below).

Table 2: Natural vegetation suitable for grazing in ILLM (2014)

Land use	ha	percent
Dense Bush, Thicket & Tall Dense Shrubs	27 685.1	10.1
Woodland and Open Bushland	22 023.6	8.1
Grassland	215 395.0	80.0
Low Shrubland: Other	4 792.2	1.8
<i>Total</i>	<i>269 896.0</i>	<i>100</i>

Figure 5: Biomes in ILLM



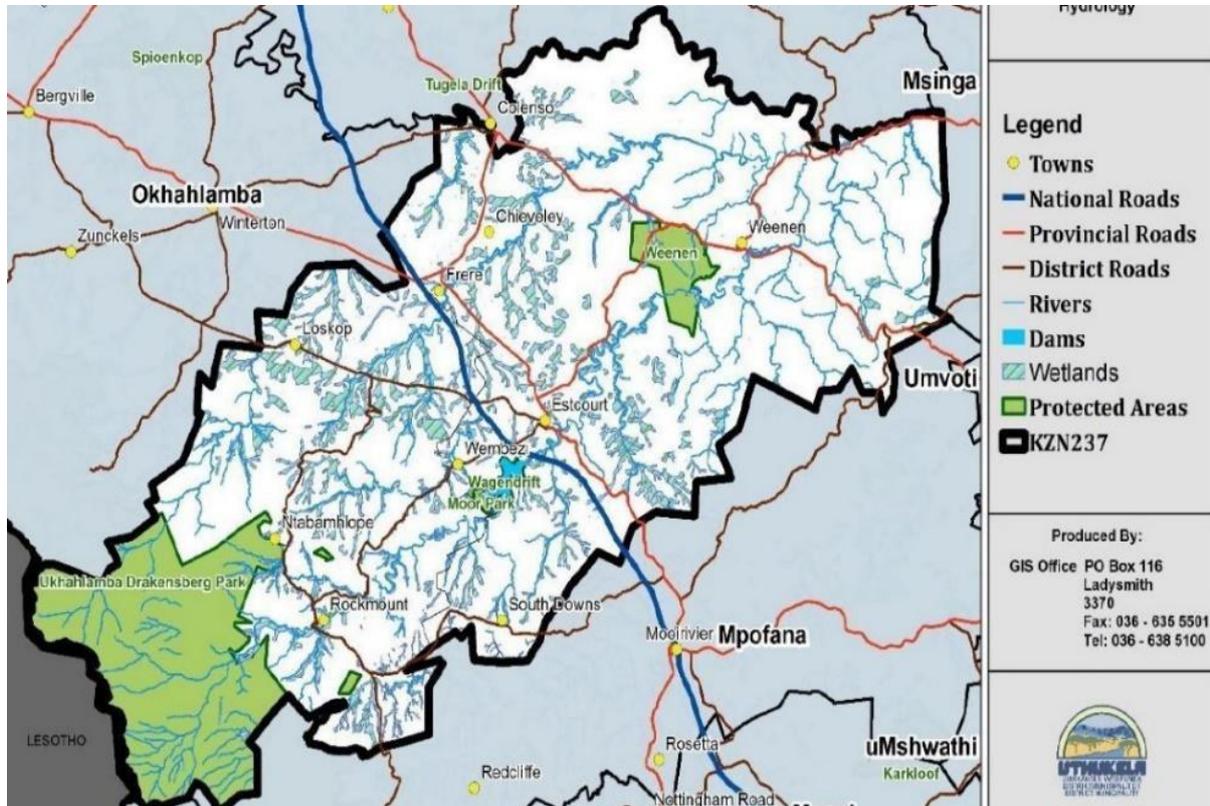
Available irrigation and groundwater resources and their current utilization

The ILLM has two large river systems running through it - the Bushman's and uThukela rivers, both originating in the Drakensburg. There is a large dam at Wagendrft above Estcourt. The Bushman's and uThukela rivers are already oversubscribed, however, and further water extraction permits are not being issued. As it is, the furrow system at Weenen runs out of water regularly, as do other farms that rely on irrigation water located further down the river, such as the Sun Valley citrus estates. Commercial farmers are in talks with the Wagendrft Dam Water Authority on how to coordinate timed releases of water. so that vegetable farming in the area does not collapse entirely.

Just outside the municipality's boundaries lie two large areas of irrigated (or potentially irrigated) land along the uThukela River – at Tugela Ferry Irrigation Scheme in Msinga, and at the site of the former Tugela Estates, downstream of Sun Valley.

Commercial farms engaged in beef and dairy production lie to the west of Estcourt, some of which produce maize for silage, either rainfall or irrigation water via centre pivot systems, taking water from farm dams or streams. Water resources in the ILLM are shown in Figure 4 below.

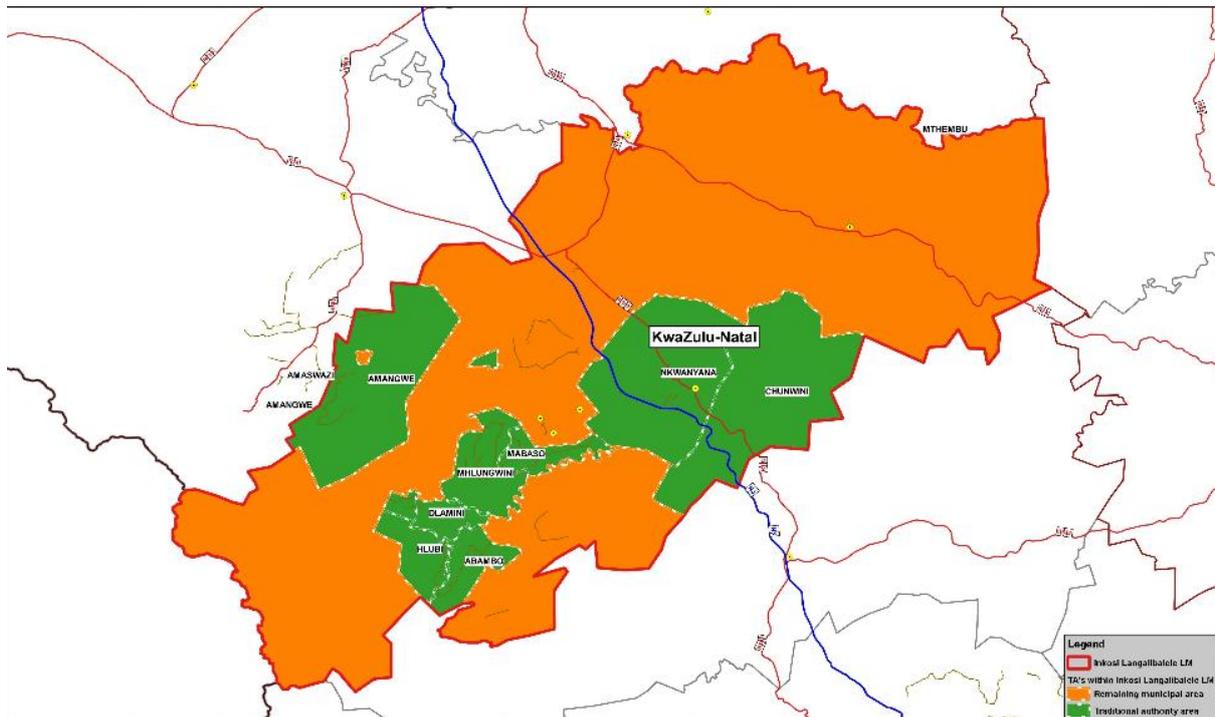
Figure 6: Water Resources in ILLM



2.1.4 Areas under Traditional Councils ('communal areas')

Large areas in the ILLM comprise densely settled communal areas under traditional councils - see Figure 5 below. Not shown are the areas outside of designated communal areas, formerly privately owned land, which were seen as falling under traditional authorities. The people residing on those farms, as labour tenants or workers, often identified with traditional communities, or 'tribes', and used their traditional courts for purposes of dispute resolution (Cousins 2011).

Figure 7: Areas under Traditional Councils in ILLM



Many of these farms have since been awarded to these former residents via land reform (see Figure 8 below).

2.2 Land reform to date

2.2.1 A history of land dispossession

Weenen was historically one of the centres of the labour tenant system. Farmers bought labour farms in this area and had 'free' labour from the tenants in exchange for allowing them to reside on the farms. The main reason that tenants accepted this system is that it gave them access to grazing and they were able to build up cattle and goat herds that would have been impossible in the overcrowded African reserves. In the 1960s and 1970s, changes in the laws, prompted in part by governments' fears of overpopulation of African tenants on white farms, resulted in massive evictions from farms to nearby traditional areas throughout this part of the district.

Historical context: labour tenancy in the Weenen area

Weenen was the third district in Natal to be de-proclaimed as a labour tenancy area. The State claimed that the local Farmers Association asked for the area to be de-proclaimed. The projected number of removals from their land was between 10 000-25 000 people, at times forcibly or settled elsewhere.

Removals of cash tenants in the area began in 1967 and continued through 1968 and towards the end of 1969. From 1969 to 1972 when the labour tenancy system was already outlawed, the area had undergone a process of upheaval subsequent to the massive removals, characterised by intense overcrowding, bulldozers being sent in regularly and the burning of huts in an effort to drive out the residents who were considered 'disobedient'. Consequently, many were prosecuted when they opposed the moves. These were the tenants who resisted being removed from Weenen during the course of the removals in late 1960s. By 1970, most of the Weenen occupants were cleared, a few remaining individuals were employed by the Municipality where they remained with their families. HYPERLINK "<https://www.sahistory.org.za/place/weenen>"
<https://www.sahistory.org.za/place/weenen>

2.2.2 Post-1994 land reform

The rest of the African population in the area between Estcourt and Weenen resided on two so-called 'black spots' between Estcourt and Weenen. These two freehold areas of Tembalihle and Cornfields are well documented and became Presidential Lead Projects in 1994. In 1995, Weenen, Muden and Estcourt were declared the areas where the KwaZulu Natal Land Reform Pilot programme would be implemented. Land reform continued in the area until around 2009. Much of the land handed over has not been actively farmed since, mainly because of subsequent community conflicts or disagreements. A particular example of this is the land given to the Hlubi tribe in the west of the ILLM, which became a dispute between the traditional authority and community members and has been unused since then.

The areas subject to gazette land restitution claims (presumably including those lodged under the Land Reform (Labour Tenants) Act of 1996) are shown in Figure 8, along with farms transferred through the land redistribution programme. The map also shows that claims and transferred land overlap in some areas. Together the areas under claim and areas of transferred land amount to some around 128 000 ha, or 37.29 percent of the municipality (see Table 3 below).

Figure 8: Area under land reform in ILLM

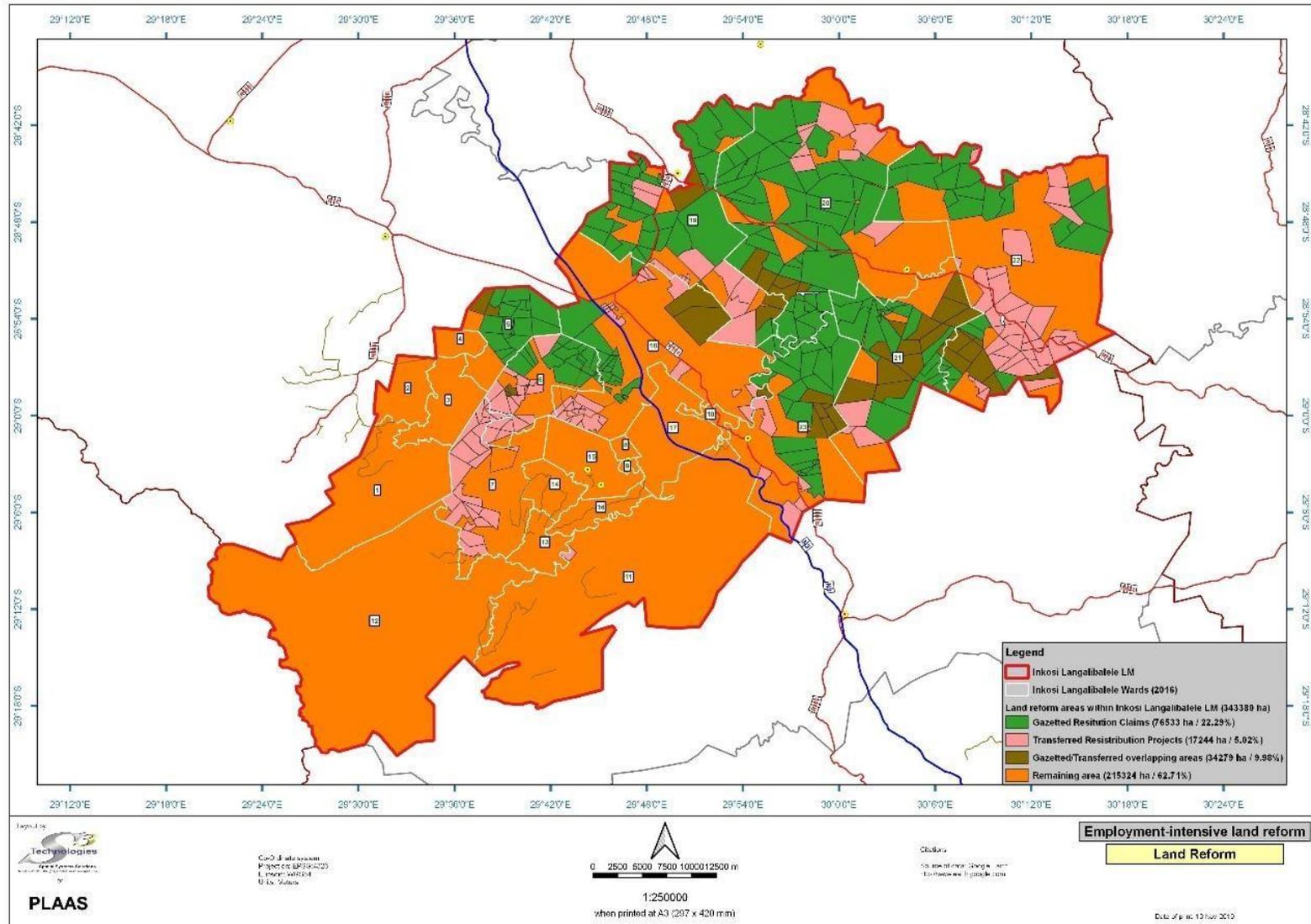


Table 3: Area under Land Reform in ILLM

Land reform programme	Area in ha	percent of land in municipality
Gazetted land claims	76 533	22.29
Transferred redistribution projects	17 244	5.02
Overlapping claims and transferred land	34 279	9.98
<i>Total</i>	<i>128 056</i>	<i>37.29</i>

Game reserves and traditional authority land make up another 36 percent of the municipality, leaving less than 27 percent available for any future land redistribution. This does not take into account the fact that some of this 'remaining' land is already settled, as in the 'townlands' of Weenen and Estcourt. There is some land that could be purchased for redistribution. However, continuing claims to such land by local 'tribes' or 'traditional communities' mean that allegiance to such a group would probably have to be a prerequisite for gaining access to such land.

2.2.3 Existing land uses among land reform beneficiaries

The Mdukatshani Rural Development Programme (MRDP)⁵ has worked in Inkosi Langalibalele municipality on land reform for over 35 years, both preventing evictions under the old regime and supporting land reform in the democratic era. Its staff members have also worked throughout the province on similar issues.

The geography of the land that has been given to land reform beneficiaries means that around may half have some possibility of irrigated or dryland crops, usually located on flood plains alongside rivers. This system of planting the flood plains was used by white farmers in the past, who then generally ran cattle herds on the rest of the farmland. The differing intensity of the two farming systems allowed the farmer to use the cattle as a low-cost way of preserving and liquidating agricultural capital when necessary. The croplands often relied on water from furrows or pumping, and a large degree of mechanisation for ploughing. They also relied on camps and fences. All this infrastructure has disappeared, having been stolen or removed.

Livestock

Most land reform farms are now large-scale, extensive cattle and goat farms, with very few, if any, cultivating crops. They are rapidly undergoing bush encroachment related to climate change and are thus becoming less suitable for beef cattle and more suited to smaller ruminants, such as goats, or wildlife. All farmers that the MRDP has worked with, or supported and partnered in land reform processes in the Weenen, Muden and Colenso areas, say that they are interested in getting land for livestock production, and maintaining a lifestyle felt to be the opposite of the 'peri-urbanisation' caused by forced evictions in the apartheid past. In our fieldwork visits to land reform farms in September 2019, it was evident that many farmers hold the same sentiment. A woman said: 'We prefer being near service delivery (water, electricity, roads and schools) but my husband wants to be a (livestock) farmer.'

Dryland cropping

Some dryland cropping had been initiated on land reform farms, but in the current 6-year drought this has tapered off, as have the number of oxen trained to plough. Mechanisation has been attempted in various parts of the municipality, but this has failed as the jointly-owned tractors have often not had the proper, high-tech care and servicing needed. Where there has been farming using

⁵ See www.mdukatshani.com

mechanisation it has succeeded as a result of sharing or leasing from a neighbouring white farmer. Mdukatshani has worked over 30 years with dryland maize, sorghum and bean producers, but it appears that crop farming of this type has largely been abandoned over the last 6 years, mainly due to inadequate rainfall.

Challenges

There is little irrigable land left in the area to hand over, as a 'Gordian knot' situation develops the moment that high value land is transferred to communities through land reform. Firstly, the traditional boundaries mean that farmers wanting to step into the farming place need to be of the right tribe and ward to farm there. This only applies to breaking the soil. Commonage has few boundaries, so does not suffer this fate.

Second is the issue of to whom the state is handing the land; this is very contested all over the province, but especially here. The Traditional Authority, Traditional Council and CPA committees all contest land ownership, power and authority, and this also often leads to deadlock and despair which chases farmers away from the agricultural investment and expenditure linked with crop agriculture.

Thirdly, the right of exclusion. which assumes that a person with a plough has the right to subtract from the commonage, assumes forms of power and identity that smallholders do not have and do not consider worth investing in.

2.3 *Small-scale farming sector*

2.3.1 *Crop production*

There is very little dryland cultivation of food or other crops by small-scale farmers in the ILLM. Even in the wetter part of the municipality to the west, with an annual rainfall of around 1000mm, few households located in the communal areas cultivate crops. Households in these dense settlements depend for their income on a combination of wages, remittances and social grants, rather than agriculture. Some own livestock, mainly cattle and goats, and many own small flocks of indigenous chickens.

The only form of cash cropping by small-scale producers on a significant scale is the production of fresh vegetables (including green maize), in areas where irrigation water is available. The main sources of irrigation water are the Bushman's and uThukela rivers, and the main location is on the former 'townlands' area of Weenen. A large irrigation scheme (known as 'Mthatheni') is located at Tugela Ferry in the neighbouring Msinga local municipality, about 30 kms away, and some of the larger farmers on this scheme are interested to acquire land in Weenen through the land redistribution programme. Five vegetable growers from the scheme, were interviewed in a focus group discussion on 10th October 2019.

Key features of the Tugela Ferry Irrigation Scheme are relevant here, since they influence the aspirations of farmers interested in acquiring land in the ILLM via land reform. A summary is presented below, followed by a brief description of intensive fresh vegetable production in Weenen, where three black farmers operate commercial farms. Three vignettes of small-scale black commercial farmers, one of whom currently rents 15 ha of land in Weenen, are also provided.

Irrigated cropping of fresh produce at Tugela Ferry irrigation scheme

Location, land and water

The Tugela Ferry scheme is amongst the largest in the province, one of only four greater than 500 ha in extent. It supplies water to an area of approximately 840 hectares of high potential soils, of which around 540 hectares are currently under cultivation by 800 to 1000 producers (Cousins 2013). These constitute around 12 to 16 per cent of all the small-scale irrigation farmers in the province. According to Mkhabela (2005, 188), a favourable climate together with the irrigation scheme means that Msinga is 'probably the leading district in small-scale commercial vegetable cultivation in KwaZulu-Natal'.

The scheme was designed to be gravity-fed, water being drawn from a diversion weir across the Thukela River and distributed to individual irrigation beds via a main canal, holding dams and smaller distribution canals. Within the beds, crops are irrigated using a short furrow system. The area has an annual rainfall of only 651mm, droughts are frequent, and arable land for fields is in short supply. It appears likely that irrigated plots were the main site of household food production by local residents until the early 1980s, when the arrival of traders with pick-up trucks, offering to purchase truckloads of fresh produce for retailing further afield, led plot holders to focus largely on production for sale. At present only a few crops, such as the occasional plot of dry beans or grain maize, are grown primarily for home consumption, and almost all crops are sold for cash.

Plots on the irrigation scheme are administered by the traditional leader, Nkosi Mthembu, in accordance with well-established customary rules, such as the right of community members with families to support to be allocated land to grow crops and to inherit such land, and a prohibition on sale of such land. Plots are considered to be family rather than individual property, but control of production and income is exerted by the individual user. Most irrigation farmers are women, and many obtain rights to plots through marriage.

A striking feature of land tenure on the scheme is the existence of a widespread informal land rental market, which helps to ensure that most plots are cultivated most of the time. Some plot holders lend unused plots to relatives or neighbours so that these plots are seen to be under cultivation, thus avoiding their re-allocation. They can be re-claimed when needed. The borrower of the plot, whether they are a relative or neighbour, may be required to offer some produce for home consumption to the holder or their family. A common arrangement involves a plot holder 'lending' some of their plots to someone else in return for providing some labour on the plots they continue to use, or paying their ploughing costs. In many cases a cash rental is paid, ranging between R150 and R200, either per crop planted or per annum.

Production systems

The main crops grown on the scheme currently are green maize, tomatoes, sweet potatoes, cabbages, spinach and other green leafy vegetables such as mustard or Chinese cabbage. Much smaller quantities of beans, butternut squash, green peppers, potatoes, onions, peas and beetroot are produced. Individual plots are known locally as *umthathe* ('beds'), and these range from 0.08 to 0.2 hectares in size, with a mean of around 0.1 hectares (1 000m²). Many farmers cultivate three to four such plots, and often borrow or rent in plots held by others in order to augment their own holdings. It is possible to cultivate three crops a year on a single plot, and many farmers do so, but others leave at least some of their plots uncultivated in the colder winter months, when crop growth is slower. Almost all farmers plant early green maize to capitalize on the crop's comparative market advantage.⁶

⁶ Until very recently, small and illegal plots of marijuana (*cannabis sativa*, or dagga) were grown along the canals by some people as a lucrative but very risky crop, but the market for marijuana has now collapsed.

The production of vegetables is highly labour-intensive, with the plot holder providing a substantial proportion, but labour is often hired in by farmers on a piece-work basis. Payment for labour is generally in cash, except in relation to harvesting, where payment tends to take the form of produce. Payment rates for hired labour vary between tasks, with clearing and weeding commonly being paid at between R130 and R150 a plot, and watering at between R30 and R50 a plot.

Larger-scale producers, those with six or more plots in use, constitute around 11 per cent of the total. There are few dramatic differences between smaller and larger cultivators, with the latter having slightly higher numbers of household members in permanent jobs or earning income from farming. Clear differences exist in relation to agriculture: large cultivators own more agricultural assets, including knapsack sprayers, and larger numbers of cattle and goats, than smaller cultivators. They also grow a larger number of different crop types.

Gross margins have been calculated for all main crops (Cousins 2013). Assuming a gross margin of R783.80 per crop, from four plots, growing an average of two crops per annum, the mean annual gross margin per farmer is R6 270.40 from 0.4640 of a hectare, or R13 544 per hectare. This is slightly more than the mean of R12 062 per annum per hectare for the nine farmers in Dzindzi Irrigation Scheme in Limpopo reported by van Averbeke and Khosa (2011: 158). Larger and generally successful producers, who are likely to grow more lucrative (if risky) crops, have the potential to earn considerably more: assuming a positive gross margin of R1 500 per crop from six plots and two crops per annum, such a farmer could earn an annual income of R18 000, or R25 920 per ha per annum.

Markets

The one crop grown on the scheme that has a clear comparative market advantage is green maize, with Msinga municipality having a reputation for producing some of the earliest crops in the province. Green maize from the scheme is sold as far afield as the main cities of the province (Durban and the provincial capital of Pietermaritzburg), in smaller country towns within a radius of 150 kilometres of the scheme, such as Weenen, Greytown, Estcourt, Mooi River, Pomeroy and Dundee. Crops such as tomatoes, sweet potatoes, spinach and cabbages are also purchased in large quantities by traders, or transported by farmers to the nearer small towns for sale to hawkers. Many farmers use cell phones to liaise with potential buyers. Farmers also sell produce directly to roadside hawkers in Tugela Ferry itself, sell their own produce at the roadside, and supply local consumers from areas of settlement close to the scheme. They make only occasional sales to supermarkets in Tugela Ferry or other small towns.

Market gluts and low prices are fairly common for crops such as tomatoes and cabbages, the result of high levels of local production but also competition from large scale commercial farmers elsewhere in the province. A commercial pack house for co-operative processing, packing and marketing of fresh produce was established by a development agency in Tugela Ferry in 2000, but it was not popular with farmers, supplies were intermittent, and it stopped operating three years later.

Farmer support

Most ploughing is done by hired-in tractors owned by government (either the local municipality or the provincial Department of Agriculture and the Environment). A few farmers hire in teams of donkeys operated by local owners, or tractors owned by other farmers. The use of purchased inputs increased greatly after the shift to market-oriented production in the 1980s, and that extension officers offered a great deal of training and advice on the selection and use of purchased inputs in this period. Extension officials also attempted to organize collective purchase of inputs in bulk, in order to reduce their unit cost, but with mixed success. A formal inputs supply co-operative operated in the 1990s but closed down around 2001. Currently only a few farmers purchase

fertilizers or chemicals together with others, and extension staff sometimes assist groups of farmers to order seedlings from commercial nurseries. Most farmers are unhappy about what they perceive to be poor levels of extension support.

Land demand

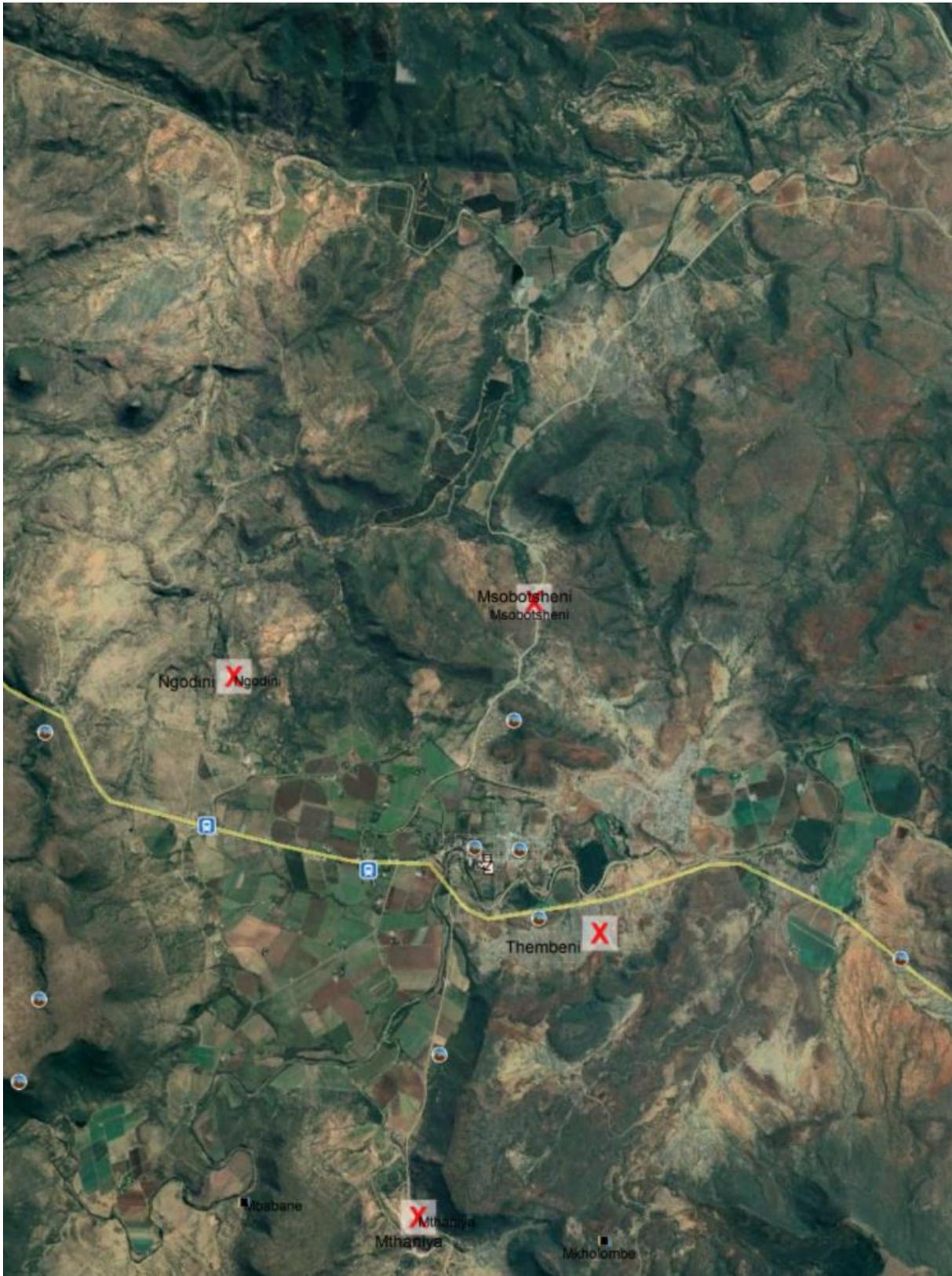
Producers operating on a larger number of plots have expressed interest in expanding their scale of production, but opportunities to do so on the scheme are extremely limited, given high levels of demand for plots. In the focus group discussion of 10th October 2019, farmers said that inadequate access to irrigated land was a key constraint, and expressed a desire to produce fresh vegetables on around 10 to 15 hectares each. In addition, government financial support for the acquisition of machinery and equipment would be necessary.

Male farmers in the focus group discussion expressed the view that relocating their homesteads from a communal area to a land reform farm would not present any difficulties. The female farmers present were of the view that relocation would require their husbands to agree. However, they agreed that the supply of the additional land they desired was highly constrained at the Tugela Ferry scheme at present.

Irrigated farms on Weenen townlands

The town of Weenen was established in 1838 and is the second oldest in the province. Approximately 25km north of Weenen is the Tugela River that marks the border with the former KwaZulu Bantustan, and today's communal areas. Weenen was a prominent vegetable producing centre in the first half of the twentieth century. Today, commercial farming in Weenen is predominantly concentrated in an arc around the town centre, extending from the north to the east and south and about 600 ha in extent, criss-crossed by a series of irrigation canals fed by the Bushman's River. These are visible in Figure 9 below.

Figure 9: Irrigated 'townlands' of Weenen



Neves and Hakizimana (2015: 23) comment that 'a post-war decline in its relative importance is intertwined with the advent of (mechanically) pumped irrigation elsewhere, especially in districts better positioned relative to large urban markets and a larger aggregate number of producers.

Weenen's decline also reflects the historically small size of its farming units.' Currently the irrigated townlands are owned by around ten white and three black commercial farmers, with each farm unit averaging around 60-80 ha in extent. The main crops produced are potatoes and cabbages, plus a range of other horticultural crops such as butternuts, beans, green maize, groundnuts, beetroots, green peppers, etc. Some farms include large areas of grazing land, and here beef cattle predominate.

Historical context is important. In the apartheid era, many of the white-owned farms on the border of the former Zululand were agriculturally marginal and owned by absentee white farmers. For much of the twentieth century the landowners operated a system of labour tenancy, exacting farm-dwellers' labour in exchange for their continued residence on the farms. Tenants were often transported to the landowners' active farming operations, in many cases located outside the district, for up to six months at a time. According to Neves and Hakizimana (2015: 23) this system 'was ... regarded by many as particularly iniquitous and exploitative. These farms contributed substantially to the massive wave of displacement with the 1969 abolition of labour tenancy'. This accounts for why so much of the land in the Weenen area, including a large area of land set aside for nature reserves, is subject to land restitution claims.

Vignettes of small-scale, black commercial crop farmers in Weenen

Vignette 1: Mr LS

Mr LS⁷ is a late-to-middle-aged African small-scale commercial farmer, intensively cultivating his own 4.5ha of well-located land on the edge of the town of Weenen. In addition, he rents 2 to 3ha of adjacent land. He has a history of formal sector urban employment, and after returning to Weenen in the 1990s bought the land, where he lives in an old caravan during the week. He has two wives (married in terms of customary law), fifteen children and about 30 grandchildren. His wives and most of the family reside in a village 15km outside Weenen, to which Mr LS returns on weekends. In addition to his land, he owns a battered bakkie, an old tractor and various implements.

Mr LS is by no means affluent, but generally earns over R100 000 a year; however much of the large household's income is spent on groceries and food. He plants two crops per year on his fertile, canal-watered land, and sells milk from his cattle on a daily basis. He has a mixed herd of 42 cattle that graze on the municipal commonage in Weenen and alongside the local rivers and road verges. His annual horticultural production includes potatoes (90 tons), cabbages (130 tons), butternuts (20 tons), green maize, and variable quantities of carrots, aubergines, chillies, beetroots, peas, beans, tomatoes, onions, spinach and groundnuts. All of the milk and much of the horticultural production is sold informally through farm-gate sales. Mr LS has two main sources of labour: he draws significantly on family labour (especially his unmarried older daughters, daughters-in-law, and two wives), in addition to hiring workers from his village, located 15km away.

Vignette 2: Mr TS

Mr TS was a successful taxi owner for many owners but decided to go into farming because of threats to his life. He cultivates 10 beds on the Tugela Ferry scheme (on a total of around 1 ha), and also rents 14 beds from land reform beneficiaries near Middelrus in Mooi River, in a neighbouring municipality). Here he has access to water from six small dams. He also trades in crops, e.g. buying groundnuts from a land reform farm in Msinga LM and selling them on to others. He employs around 11 people a day on 24 plots and pays them a daily wage of R80. He grows beans, groundnuts, green maize and garlic, and sells produce to both bakkie traders and to fresh produce markets in Pietermaritzburg and elsewhere. He has not received assistance from any government programme to date. He thinks that he could easily cultivate 10 to 15 ha of irrigated land in Weenen, and that

⁷ This vignette is taken from Neves and Hakizimana (2015: 34-35).

furrow irrigation is just as effective as sprinklers but has the advantage that it is much less costly to install.

Vignette 3: Mr MB

Mr MB is a single man in his thirties who has been renting 15 ha of irrigated land in Weenen for the past two years. He grows cabbages, butternuts and spinach, and plans to expand the area under butternuts at the expense of cabbage, given the gluts of the later that he commonly experiences. He markets his crops at the Pietermaritzburg and Durban fresh produce markets. He has received some assistance from the provincial department of agriculture, which provided him with some equipment and occasional help in transporting his crops to fresh produce markets. He is still learning to farm and has helped by both other farmers and by his experienced workers. He aspires to own his own land, and to farm with beef cattle.

Employment-intensity of horticultural production in Weenen

Employment-intensity is directly related to the degree of capitalisation of production systems, and significant differences occur between smaller and larger 'scales' of production (scale here referring to capital-intensity and output as well as farm size). Neves and Hakizimana (2015: 71) suggest that the farms of small-scale, black commercial producers in Weenen generate around 300 person days of employment per ha, as compared to 100 person days per ha for large-scale producers. They estimate that commercial farming in Weenen generates around 300 full-time equivalent jobs from its 600 ha under irrigation, i.e. 0.5 jobs per ha, or 1 job per 2 ha.

The full-time equivalents (FTEs), at 264 days per annum, of employment in small-scale vegetable production in the locality are estimated at 1.5 jobs per ha for small-scale producers, including one job per farm for the self-employment of the farmer and 0.3 per farm for family members.

2.3.2 Livestock production

Production systems

Currently, farmers of livestock in rural areas tend to be older men aged 50-70 years, who have accumulated wealth as migrant labour in big towns and have come back to live at home and look after cattle and grandchildren, while the next generation work in urban areas or look for jobs. These are largely multigenerational families that were either farm occupiers or labour tenants in the general area that they are now living.

Cattle and goats are owned by the more affluent and powerful people in a rural community, especially the larger herds and flocks. They are also generally free roaming and as a result are seen as a problem for gardeners and dryland croppers. Given that the men who own cattle would generally need to be on board and supportive of any farming enterprise that would exclude cattle or goats from their land, men are often necessary for any farming that isn't livestock related to be carried out. To this point, many women farmers who want to grow crops see goats as the main pests of the area. This was confirmed by interviews carried out where most non-goat farmers in almost any environment from game farming to vegetable farming speak disparagingly about goats and how disruptive they are to their farming practices.

Fencing which is seen as the only really useful control mechanism for livestock has been a controversial issue for farmers and the state for many decades, and before the current government came into power. Fences get pulled down or cut, through vandalism, to be sold at pension points, or to push stock through for poach grazing. Whether this is true in all parts of the country though is unknown. As such, most state supported fencing programs have not been successful and most of

these fences have disappeared. This is also true on land reform farms, where the fences are quite quickly removed and livestock start roaming freely.

In other cultures, and countries in Africa, herders would be used to control livestock in areas where there are multiple land uses. Traditional authorities would often also have rules around when livestock was allowed in the dryland cropping areas and associated fines were levied on people who broke these rules. These herders were old men and schoolchildren who shared the responsibility of where the cattle were and whether they came back at night. The fact that all rural children go to school has largely broken the system of herding and many traditional authorities report that this system of controlled grazing in dryland areas has also collapsed. What this all means is that where there are livestock keepers, it is more and more difficult for gardeners and dryland croppers to live and practice side by side.

Livestock functions and uses

Livestock keeping in rural communities reflects their key functions (Randolph *et al.*, 2007) plus also the common constraints that they face (e.g. finances, access to information and services, landlessness). The key functions are:

- *Producing food:* A regular supply of nutrient-rich, livestock-based supplements to plant-based staple foods is critical. In some societies, including South Africa, slaughtering livestock for meat is infrequent and done only when animals are sick or old, or when required for cultural ceremonies and hospitality.
- *Generating income:* Owners may produce for the market, but often sales are occasional to meet urgent needs for cash.
- *Providing manure:* Livestock manure is used mainly to maintain soil fertility, and therefore contributes to better crop production.
- *Traction and transport:* Cattle and donkeys are often used to plough and transport commodities.
- *Serving as financial aids:* The poor do not have access to credit and banking facilities in general. Livestock offer an alternative to their savings or accumulated capital, and as a hedge against inflation. They can sell their livestock for urgent cash or use them as a form of insurance, which can be sold to provide for the family when the owner dies.
- *Enhancing social status:* Cultural norms in many poor rural societies place considerable value on livestock as an indicator of social importance in the community. Livestock is also exchanged as dowry and the price of the bride is linked to the social status of the family.

Markets for livestock

Local cultural demand for goats in South Africa is currently driving (and exceeding) the supply of live goats. Goats for meat are mainly marketed in the informal sector, in the Eastern Cape and KwaZulu-Natal, which is driving the goat industry. The informal live market pays higher prices than the formal mutton and goat abattoirs can offer (e.g. R1 200 vs R700 for the same size/age animal, in November 2018). The informal goat meat market in South Africa is mostly supplied by (live) indigenous goats as well as some older Angora goats (on a seasonal basis).

What is important to note is that cultural practices among African people is on the rise with growing wealth and education, a fact that has surprised many. Further, people who practice these rituals do not see them as optional but generally believe if they are not done they can create destruction of family life. To this end, people will borrow money to get livestock to enact these rituals.

Generally, it is accepted that this is a market that is unknown, untaxed and unregulated. As such it is almost impossible to have any statistics on it. The KZN Goat Agribusiness Project has worked with a

focus on this market for the last three years and can draw broad lessons from its work in the field and numerous livestock surveys that it has carried out.

Goats are the most important cultural livestock type among the Nguni people. The goats are used for almost all ceremonies from marriages, deaths, births, pregnancies, coming of age parties, etc. They are seen as the opening part of any ritual as the loud bleating during slaughter awakens the ancestors and makes them receptive to any further slaughter of cattle or the like. They are also used on their own for the same purpose. At least a million goats a year are slaughtered in KwaZulu-Natal, and many hundreds of thousands more among the other Nguni tribes, exclusively for ceremonial purpose and thus, at people's homes, with none of this meat being sold. Goat meat is eaten as part of every ceremony but is not prepared in any way beyond boiling so it is often described as an unpalatable meat. This has stymied many goat meat initiatives.

Sheep are also used in rituals. This is more common among the Xhosa people. It is a close reflection of Zulu society so many of the same aspects are there. People from the Muslim and Hindu faiths also use sheep and goats in a variety of ceremonies that involve slaughter and thus a need for live animals.

Cattle have a more multifunctional role in culture. Primarily, cattle are seen as important in daily life as a representation of wealth and security so a cattle kraal is placed centrally in African homes as the focus point of much of daily life. Men are expected to have a bull in their kraal and many ceremonies are linked to bulls and linked to milking cows. Cattle also are the main currency for a bride price system that connects families and has many related to these bride price cattle. Lastly, cattle are necessary for all ceremonies that involve death and washing of the spirits. These are very important ceremonies in that they allow families to be released of all the debts involved with the deceased meaning that they can go on with their everyday life once they are done. This is especially important for widows.

The lack of cattle in many homesteads is creating an environment where many of these ceremonies are being monetized and at the very least have become a financial burden on families who have to save or borrow money to buy cattle. Goats and sheep, however, can be swapped up for cattle. This means that having any of these three types of these livestock is a very useful investment for any family. The fact that these animals are needed alive makes them much more expensive than the same animal sold to a butcher for meat. Often the difference is as much as 40-50 percent for the same animal depending for what you can use it for.

Women cannot generally lead sacrifice ceremonies as they are protected from killing animals. They are also restricted in terms of what they can do to animals as they have no access to the livestock enclosures. This has often got to do with beliefs around fertility and menstruation. They are also not understood to have the power to make decisions around livestock as the spiritual connection to livestock means that the livestock and its welfare is controlled by the ancestors and the woman is generally is of a different surname than the ancestors whose livestock they are.

Tapson and Rose (1984) comment that cattle have a socio-economic aspect in preserving traditional Zulu culture and that *"it could be argued that the ownership of cattle has such a deep spiritual significance for the Zulu that the cattle herd has little other purpose, and action should be directed to meeting this cultural need"*.

Gender and culture

Gender and power issues are strong in communities that we have been worked with; in project areas men own the most valuable livestock, and often let women own the less valuable livestock.

Cattle are often symbols of powerful men and need a kraal - herders and dipping at the very least. To handle cattle for veterinary or management interventions is difficult physically for women, and ploughing is often even more unlikely – cattle are seen as having many social rules that exclude women from handling or approaching them. Few widows are able to hold onto bigger herds for long past the husband's death unless they can pass these on to a son of reasonable age (20 plus) as stock-theft (targeting weaker homes with a dominant man) deplete these herds quickly; in addition, there are (made up and often unjustified) family claims on the cattle. Few if any ceremonial sacrifices can be presided over by women or done by women or young people especially as women are representing a surname not from this kraal (maiden surname). The issue of men often being absent in rural communities often makes this 'theoretical ownership', as many homes are women-headed in real terms, often by matriarchs who oversee the homestead and associated sub-families. These women will often phone the 'owners' in town for decision-making, but they essentially run the herds in the absence of men.

The breakdown of societal norms around marriage and children born from more than a single father and out of wedlock has created a class of single mothers living at home who in KwaZulu-Natal, who are called *amashwele* or *osomaceleni* (the 'forgiven one' or 'those who live alongside'). These new types of families often don't have cattle kraals and so tend to own smaller livestock more easily. Bride price (*lobola*) is equally becoming a rarity, and people often say it is too expensive, although it is mainly poorer more rural families who still pay it.

Goats are easier to own and control than sheep. They self-herd and are relatively easy and cheap to invest in and establish a productive herd. There are also gender issues around entering the goat kraal, but they are smaller and easier to handle for women. Women are not welcomed in dip tanks or the associated management structures but these are indeed only for cattle so the smaller stock women generally represent is not catered for in current extension models.

Farmer support and farmer organisation

The organisation of black livestock farmers is poorly developed in any formal sense. This is probably because they have generally underdeveloped value chains and sell out of hand when the need arises.

There is however a very strong macro-organisation that has taken very different forms in each province. This is led by the national Department of Agriculture, through the veterinary sub-department, and exists for the control of livestock movement and other spread of livestock diseases. In the days of apartheid, it was used as a system to control of stock-theft by registering any movement of livestock in and out of rural areas.

The most typical form this takes around diptank infrastructure that is state-owned and built and where the state still provides dip for monthly, bi-monthly or quarterly dipping of all cattle. As the state needs this structure maintained and needs to control ticks and conduct vaccinations for controlled diseases there are social structures that are set up in the form of diptank committees and these are probably the primary form of livestock owner organisations. They are, of course, male-dominated and only deal with cattle, for the reasons discussed above. Goats are not dipped and are not part of controlled disease vaccination campaigns. Sheep do get red mite which is a controlled disease and have in the recent past been focused on by the state through the Wool Growers Association where they have quite strong infrastructure and social organisation. The diptank associations are structured around a livestock association that is often district municipality based. These institutions meet once a month, collect money from their members, get briefings from the Department of Agriculture and receive medicines and dip. Through them, auctions are conducted by

the current auction institutions like Vleismart and BKB. There is an initiative funded by the state to support feedlots and subsequent auctioning of cattle which has had mixed success around the country.

Farmers are sometimes organised through farmer's associations, although these can have political identities and have been seen to represent the more affluent farmers. This is not to say they are bad but they don't seem to be leading any initiatives to improve productivity or value chains in rural areas among large numbers of farmers.

Female farmers are not represented on any livestock organisation structures that these authors are aware of. Generally, because these are cattle-owning structures, and because of power and cultural dynamics, women in rural areas struggle to join and benefit from. The same could probably be said for youth.

There are also many vigilante groups that represent farmers at local and provincial levels in a quasi-state supported system of dealing with stock thieves and stock theft. They work openly and are often supported by the police although their system of torturing and killing people, the state cannot publicly support.

The potential for expanding small-scale livestock production through land reform

Interviews with key informants

Over 30 in-field interviews were conducted in this study. These included senior and middle level government officials, farmer association members, and farmers, both large-scale commercial and small-scale, who produce livestock and vegetables. The farmers interviewed included land reform beneficiaries, private landowners and farmers living on communal land.

The interviewees all agreed that the current land reform process does not support farmers, but rather creates villages of disparate residents who have very different outlooks and needs. This is counter to efficient farming, as it creates fragmentation of grazing or ploughing land. It also does not support a particular farmer who wants to extend beyond homestead farming, as their livestock have to move through the village to get anywhere near grazing. Farmers also cannot breed towards a particular colour or type, as communal herds/flocks mix and dominant bulls or rams are expressed in the gene pool, rather than those characteristics a farmer is selecting for.

The ongoing droughts have had a huge impact on herd sizes, with many farmers having lost all their cattle, and others with larger herds having lost up to 70 percent of their cattle. Farmers said that droughts had led to high levels of kid mortality, but their goat herds were generally able to survive the droughts. Farmers agreed that they and community members more generally were moving away from investing in cattle and beginning to invest in goats.

In relation to ploughing for crop production, it is often difficult to get the whole village to agree to jointly fence off and guard a piece of land that could be ploughed, and this leads to farmers ploughing small bits of land around their homes, that are often too small to make any financial sense. All the interviewees agreed that it would be useful to them, and support their farming aspirations, if they could have access to land where there are no families in residence, where farmers could stay temporarily or send their herders to stay. They would thus have access to prime grazing area without the competition of other farmers. They felt that this would allow them to commercialise their farming far better than they are currently doing.

The farmers recognised that moving onto this high potential land would mean moving away from family life, or moving the family away from established infrastructure. They are prepared to make

these kinds of adjustments, and some farmers have already done so. They all understood the sacrifices involved in children walking long distances to school, but the changes allow those who are able to have larger herds that survive the droughts and are not stolen by neighbours.

The women who were interviewed also recognised the sacrifices, but were less enamoured of them, and described a tension in the home between the younger generation and the livestock owners, especially as it would be the women and children who would be walking to school and fetching water from long distances. All the farmers recognised the huge cost of moving a homestead, which entails breaking down huts and building new ones but also the problem of moving to a new area and leaving family graves and ancestral lands behind, with future difficulties expected from not having the family graves nearby. There is currently no accepted social way to move graves in African society.

In separate interviews, farmers from the furrow irrigation systems in Weenen and Tugela Ferry, gave their perspectives on high value land that they were using in and around the municipality. All of these interviewees expressed a need for more land and described how land was the main impediment to increasing their productivity and commercialisation. Many of them have a number of employees scattered over a huge area. This scattering arises because of the difficulty of finding land that they can use unhindered. They described how they had found pieces of land where they had approached authorities to use or farm it, only to be told that it is a disputed piece of land or they were told that the community wouldn't let an 'outsider' use it. Thus, the three main factors they looked at in land were availability, irrigation and lack of dispute. Most of them described their aspiration to operate much larger farming enterprises with many workers. Access to land is their largest problem at present. Some also added that mechanisation or the financing of mechanisation systems would also become a future inhibitor to the growth of their enterprises.

Both sets of farmers, when questioned about extension support from the Department of Agriculture, had not even factored it into their thinking as their experience had told them that both the extension advice and the will of the government officials was lacking. And thus not worth factoring it into plans for the future.

Most of the farmers interviewed described an interest in collaborating with other farmers on a piece of land rather than owning a piece of land by themselves. They also described the issue of tribal identity that led to labels of 'insiders' or 'outsiders' as being the main factor that stopped them from investing in farming this municipality.

All the farmers recognised that systems to control livestock movements and access would be necessary. Most suggested that a properly implemented and maintained fencing system would keep grazing in good condition and keep animals out of fields and gardens. They all suggested that this is something that the state could be providing.

Most of the farmers interviewed touched on the abandoned land reform farms, and the difficulties they experienced in gaining access them.

Based on these interviews, together with the authors' experience of working with small-scale farmers and livestock over many years, the wider policy implications can be summarized as follows:

- The potential of livestock production in this local municipality is very large, given the low productivity at present.
- There is a need to seriously reconsider the mandate of the veterinary department, and refocus it to become the main provider of animal production support.
- Goats are likely to be better adapted to global warming than other species.

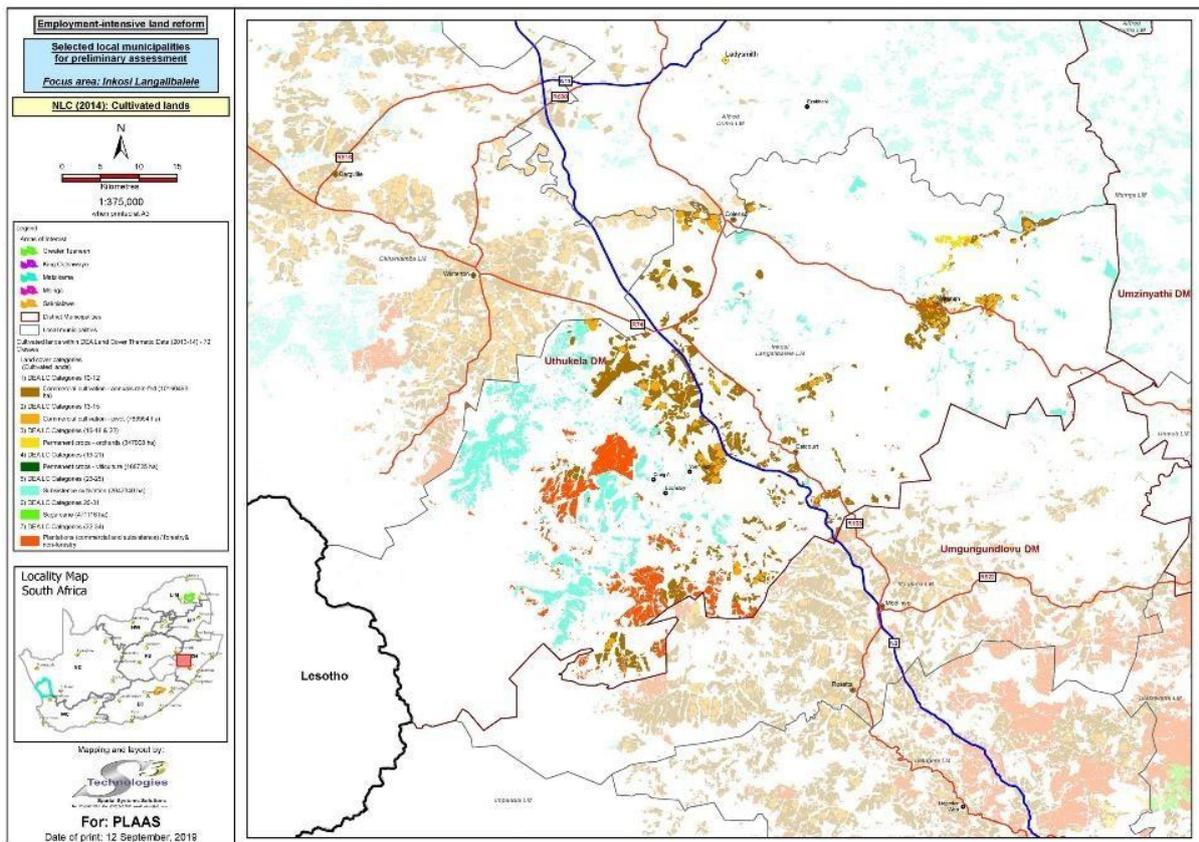
- Indigenous breeds of livestock are easier to farm and are more climate smart.
- Small scale women farmers are the future and should be supported on a large scale.
- Goats will inevitably create a need for more labour, as they are harder to control than sheep; the fact that fences disappear with land reform means that herding will remain important.
- At current prices the value of the capital invested in one cow is equal to 12 sheep and 8 goats; this means that for the amount of capital you invest in cattle, you will get many times the return by investing in small stock instead.
- Land reform farms: almost all farms in South Africa, except perhaps those in the far north of the Karoo, could keep both sheep and goats, and the ratio of sheep to goats could be adapted according to how much grass to bush there is on a farm (see the tables below).
- Changes in how small farmers are supported in relation to marketing in rural areas are a priority.
- The market and demand already exists, as we already import huge amounts of beef/cattle, sheep/mutton and goats.
- Supporting the emergence of more small-scale speculators, who are constantly buying livestock and moving them out of rural areas, is the first step.
- Establishing monthly markets for the sale livestock is an urgent need in every municipality.
- A key constraint is that municipalities do not allow farm animals inside municipal boundaries, and also prohibit sales sites within their boundaries.
- Abattoirs are often suggested as the answer to the marketing question. However, there are major environmental issues to address, including access to the water needed to process waste, but also the fact that farmers lose 40 percent of an animal's value as a result of not allowing a live sale and a home slaughter.
- Stock theft is flagged as the second most important problem faced by all livestock farmers. Although experience has shown that there is probably some bias attached to farmers saying that this is the second biggest causing livestock losses. It is nonetheless important as reducing livestock theft gives farmers confidence to make marketing and breeding decisions.
- The only way we have found around this is to support the establishment and operation of Livestock Associations, or some alternative similar structure. These participate in, administer and control all sales of livestock, but without becoming bureaucratic and stealing money. Where it has worked, it is because of the farmers themselves and their leaders.
- Feed is a major constraint. The problem is often named as a shortage of 'grazing', but this is incorrect in our view. Generally, there is a severe shortage of protein in the feed consumed by livestock, especially when farmers are trying to increase the productivity of their herds. Currently any commercial feed has a price linked to fuel and soya, but these are externally sourced and thus the feed is expensive.
- Farmers sometimes try processing local crop stover, crop residues and invasive trees as a source of feed, and these can assist.
- A key missed opportunity exists on farms bordering commercial farms, from which farmers can purchase sugar cane and pineapple residues, or having a 'middle man' process these in order to sell on to farmers.
- In African homesteads different species of livestock are kept separately, so leftovers will often be eaten by animals for which they were not intended. Chemicals like urea are added to feed for cattle, in order to artificially increase the protein content, but urea is poisonous to chickens, donkeys and male goats.
- Smaller scale livestock farming systems are healthier and cheaper to operate than large-scale systems, because of the build-up of diseases and parasites in the latter.
- The opportunities to produce 'organic' or 'sustainable farming' brands of foods like Karoo Lamb have not been explored enough.

- If the process of ‘peri-urbanisation’ continues, with more people living at the urban edge, it is likely that many will be able to successfully produce small livestock like goats.
- As global warming advances, it allows diseases to advance into new areas, and previous livestock farming choices have to change. An example is heartwater being brought into the Drakensberg, Lesotho and Eastern Cape. This is a deadly disease carried by bont ticks that have spread from warm lowveld areas into these high grasslands, due to the lack of heavy frosts that normally kill the tick larvae in winter. Sheep, dairy cattle and Angora goats have little resistance to this disease, and farmers will need to move to keeping hardier, indigenous cattle and sheep as a result.
- The red line for Foot and Mouth disease restricts livestock movement across borders and from neighbouring countries into South Africa. The red line is no longer well policed, and recent outbreaks suggest that livestock are actually moving freely through this supposed boundary. As demand for livestock increases, there will be increased pressure to bring in cheaper stock from our northern neighbours, thus the foot and mouth quarantine will be diluted. Diseases unknown in South Africa like ‘Peste des petits ruminants’ (PPR), also known as ‘goat plague’ or ‘ovine rinderpest’, will probably also begin to spread into the country. These cheap goats will have come at a heavy price.

Large-scale commercial farming sector

This study did not focus intensely on large scale commercial farming as a primary purpose was to assess the potential for smallholder and small-scale commercial farming systems on redistributed land. Agriculture in the ILLM includes dairy, forestry, dryland cropping, vegetables and extensive livestock farming. Figure 1 above shows the potential of land following the rainfall intensity declining from west to east, with altitude and resultant veld types also being key factors. Figure 8 below shows the areas under cultivation, that are clearly located on only a small proportion of the total area under the ILLM.

Figure 10: Cultivated lands in ILLM



3 Analysis

3.1 Future land reform possibilities

As has been pointed out above, only some 20 percent of the land in the local municipality is still available for land redistribution, and most of this has a tribal land claim to it. There may appear to be small pieces not under claim, but they have not been claimed or transferred for reasons that become obvious on enquiry.

It would be possible to transfer land currently held in the Weenen Game Reserve, but even this land is disputed between the Mabaso, Mbhele and Zulu clans that were evicted from it because of the erosion on these farms. As far as we are aware, all other land in Weenen is also under claim. There is some irrigated land inside Weenen that could be purchased or leased, but the number of plots available would make this a very small-scale change to the area.

The options in a municipality like this are then limited to a small possibility of future land reform being enacted on the small remainder of land and having to wrestle with the tribal claims and counterclaims. Some of our key informants said that they could not get various pieces of unused land that have already been transferred to communities, as they were from the wrong tribe or ward. One of them is now farming in Mooi River, an hour and a half away from his other farms, in order to avoid these sorts of problems.

The second and much larger scale possibility would be to engage with and fix many of the farms that have already been given to land reform, that are currently unproductive or sub-productive. Our job

creation estimates set out below assume that 50 percent of land reform farms can be redistributed to beneficiaries of an employment-intensive programme aimed at productive farmers

The third option is looking at Ingonyama Trust land as the site of a possible land reform project and start planning an intervention around this. The political and social dynamics of such a process would be daunting. The fourth option is working with farmers on Ingonyama Trust land without trying to negotiate the land ownership question.

For land reform to work, existing smallholder farmers would need to self-select into two groups: (a) resident small-scale farmers who market crops or livestock on a regular basis, and (b) aspirant larger-scale commercial farmers. The latter would need to be prepared to be geographically 'unanchored', moving away from where the bulk of people currently reside, and be able to scale up their farming systems. These commercial farmers would need support from local authorities, to be able to farm without needing to change their cultural identity, and thus to be accepted by residents in the area where they intend to farm. This could be done by establishing a new class of farmers that were publicly identified and acknowledged, and received support by someone like King Zwelithini.

3.2 Implications of these proposals for extension support

Agricultural extension services would have to be broken down into four separate sections. One section would be a dispute resolution section of the provincial department that would be at a high level and be able to call on law enforcement and other soft skills to resolve disputes ('put out fires') as and when they happen.

The second section would aim to support small business cooperatives or groups to manage basic finances, engage in joint marketing, trade in shares of the cooperative, and implement clear rules and criteria for 'exit' and 'entry'.

A third, training section would be able to provide subject-specific training to farmers wanting to change their farming practices. A follow-up system should assess what further skills farmers need and channel farmers to appropriate training institutions, and could allow for different skill levels, for example in relation to farmers wanting to commercialise at the two different levels described above.

A fourth section would provide for infrastructural development and support services, by setting up self-sustaining small business units, for example, to service tractors in irrigated cropping areas, and get state credit for work on state-funded infrastructure. The state would need to set up systems to maintain the costly mechanisation infrastructure in a manner that holds farmers to account, but also supports them with repair and maintenance services.

3.2.1 Livestock production on land reform farms – a set of recommendations

Extensive livestock production by small-scale farmers has the highest potential for job creation in the local municipality, based on the fact that this area is generally deemed a livestock farming area (although there are patches of intensive farming of animal feed or vegetables using centre pivots or furrows for irrigation). Table 4 below outlines existing problems and solutions and suggests steps to unlock this potential. It includes establishing a value chain that creates youth employment and is based on the commercialisation of livestock production by land reform beneficiaries.

This local municipality study proposes a new system to support small-scale agriculture with a particular focus on livestock. It would be held together by a new government extension model that could also be used to support other livestock systems, but also cropping systems.

As land reform will be used by the state to support the emergence of a future group of African farmers, this study proposes that all future land reform projects that transfer arid or semi-arid land use our model, based on small stock, to support beneficiaries to creating small businesses.

As argued above, as well as in the commodity study on livestock production⁸, small stock farming has in the past been ‘under the radar’ of mainstream agriculture, in relation to both oversight and support and agricultural statistics. In recent years this has begun to change. It is now clear that there is a huge untapped domestic market for small livestock currently being supplied by farmers in neighbouring African countries. The current estimate from the Red Meat Producers Organisation is that a sum of around R4 billion in goat purchases between farmers goes untaxed. This is over and beyond the 300 000 to one million goats imported from neighbouring countries like Namibia, which is worth another R1 billion or so. This does not take into account animals that would be consumed in homes as a contribution to food security. This market is African owned, relatively undercapitalized, and has huge potential for growth.

Two of the authors of this report launched a pilot project over the last six years known as the Goat Agribusiness Project (GAP), in which around 25 000 small scale farmers located in five districts of KwaZulu Natal, including Inkosi Langalibalele Local Municipality, have participated. Many valuable lessons have been learned, and they form the basis of many of the recommendations made here. As livestock production is very ‘scalable’ (i.e. flexible with regard to the numbers of animals required to be profitable), a farmer could have 20 goats or 200 goats and still be able to make some profit. Livestock production can also be undertaken in conjunction with other types of farming, for example where unused land exists on the boundaries of high-value crops. The GAP pilot project has also shown that using residues from other crop types is a very simple and easy way to increase the productivity of small stock.

The GAP pilot project has also shown that using local unemployed youth who already have a command of English and training them in basic animal health and other practical skills to support livestock production can contribute to local economies by improving productivity of the local herds as well as creating employment for youth. This model should be scaled out in all land reform purchases as it would be able to create a primary level agricultural business which would not preclude future expansion into other livestock types or crop farming but would break the inertia of land handover followed by inaction by the state that leads to many land reform farms being seen as unsuccessful. The GAP experience shows that any work with communities around livestock health has a huge knock-on effect way beyond the farmers that GAP works with.

In terms of investment from the state, most farmers already have some livestock and related infrastructure and many with experience so there would be no need for a large grant system. The initial steps needed would be training and a beneficiary identification of farmers that are interested in commercialisation who could then be allocated farms that were appropriately sized for a farm unit and supported to create a commercial farming venture out of it.

Table 4 below lists the current problems facing small-scale livestock producers in this local municipality and suggests potential solutions. Many of these will have much wider applicability.

Table 4: Problems and possible solutions

Problem	Solution
There is not a well understood or developed layer of commercial African farmer on land reform farms specifically for livestock.	Develop this class of farmer by working with a few self-selecting farmers from each farming area who want to upscale and commercialise their herd or flock. Where necessary find land to expand into. Link these farmers directly to speculators and agree on a productivity system that works within the environmental limits of carrying capacity and parasite loads.

⁸ Alcock and Geraci 2020.

Problem	Solution
It is illegal to sell livestock in municipally declared towns although it happens in every single town in South Africa	Government would have to change municipal bylaws to allow livestock to be sold within city limits but at the same time build safeguards to this system to protect the animals from sitting in the sun with no food or water for days.
Stock theft is the first or second on the list of problems that farmers blame for productivity losses.	At sales points, there is regular policing to check on legislative livestock marking, check that the documents are in good order and are provided by the Livestock Associations from their areas. The Livestock Association leadership also regularly visit the market and are supported by local law enforcement. All sales happen inside an agreed upon or approved marketing point.
Cash transactions will inevitably lead to armed robberies of various degrees of severity	Support a variety of pilots that incentivise banks to provide rural cashless systems that aren't reliant on smartphones.
Farmers will often be wanting to sell livestock in small quantities as and when need be but buyers need the regularity and bulk to make the trip worthwhile.	Set up monthly sales points at pensions which are within walking distance of farmer's homes and once both the buyers and sellers believe in its regularity, they will start coming. Separately and in support of this, incentivise young people to be a substep in the value chain where they collect and prepare livestock for sale and these animals are paid for a small commission as they are both healthier and more secure. Set up a digital platform with both sms and whats app to advise buyers and sellers of each other's activities and thus ensure the continuity.
Veterinary support for any scale of extensive livestock is currently not supported in South Africa. This extends from private vets all the way to dosage sizes and packaging.	Support a system of veterinary support steps from a Community Animal Health Worker (CAHW) treating farmers' livestock for a small fee to having a veterinary sales point in every village ensuring that cold chains of medicines and vaccines are supported and checked on by local government staff to supporting veterinary wholesalers supported by the vet companies and training materials that support farmers to understand medicines, dosages, antibiotic resistance, etc. Communal support structures that support other livestock than just cattle, e.g. goat dips, chicken vaccinations.
Winter bottlenecks and extended droughts as well as times of feed stress (weaning pregnancy)	Solution: Establish localised feed processing systems using local produce, crop residues and indigenous plants as much as possible to sell supplemental feed options to farmers.
Most African livestock is not well understood and natural bottlenecks in their productive systems are not written up and disseminated.	Incentivise research around African livestock systems in government funded program like the NRF, ARC and universities and Technikons. Set up useful experiments that answer farmers questions on currently government owned research stations that reflect the reality of farmers' systems and ways of working.
Government staff have no extension policy that talks to either livestock or land reform beneficiaries	Establish a simple curriculum that acknowledges a variety of new realities like a) small scale farmers b) land reform beneficiaries and c) communal stock farming.
Farmers can often not access things individually, but cooperatives often seem to fail.	Pilot other models of cooperative buying, selling and resource use

Problem	Solution
Farmers often want to commercialise but don't have the multiple skills needed to be effective and efficient at this.	A broad scale training of many interventions spaced out across monthly or bi-weekly morning or afternoon trainings that is incentivised by the state not supporting farmers who aren't following through on getting the qualification.
Women and youth are often not assumed to be the target beneficiary of agriculture support yet the reality is that they are the present most of the time at home and make a majority of decisions around homestead herds. The youth are also literate and interested in learning and making money.	Focus extension efforts on the broad scale around other livestock than cattle. Support localised extension systems that come to the farmers. Create extension systems that rely on setting up small businesses towards self-sufficiency that would give these youth jobs in their own small businesses. If this becomes the hook that all extension is hung onto, it will resolve a lot of problems around sustainability, employment creation and skills loss in rural areas.

3.3 Estimating employment creation potential in Inkosi Langalibalele Local Municipality

Farm sizes throughout the country vary widely, with a general trend to larger farms in areas that have less agricultural potential and smaller farms in high rainfall areas. Table 5 below provides a set of building blocks for the commercialisation of small-scale livestock production regardless of the specifics of any piece of land.

Large Stock Units (LSUs) are the basis of all carrying capacity calculations. Small Stock Units (SSUs) are a derivative of this, based usually on a ration of 1 LSU to 6 SSUs. In our estimates, we have used 100 LSU as a base figure, where 100 cattle are equivalent to 600 goats.⁹

Table 5: Assumptions informing estimates of employment creation in ILLM

For a 100 LSU farm and herd*				
Area	Cattle land price	Goats land price	Cattle	Goats
Drakensberg grassland	R3 500 000	R3 500 000	Capital outlay R1 000 000	Capital outlay R600 000
Midlands grass and savannah	R1 584 000	R1 161 000	Profit annually R158 000	Profit annually R600 000
Bush and thicket	R860 800	R687 200	Return on investment 15.8 percent	Return on investment 100 percent
			5 full time jobs	9 full time jobs
			5 value chain jobs	6 value chain jobs

This is based on an extensive system. Salaries, veterinary and feed costs are not included.

To fully realise the potential of small-scale livestock herds, a value chain would need to be developed both to supply these farmers but also to increase offtake to much larger volumes than are presently

⁹ This ratio is a conservative figure, calculated some 40 years ago. It probably has a margin of error of 50 percent either way, as it assumes a cow weighs 750 kg, whereas most cows of indigenous breeds weigh closer to 500 kg. It also assumes droughts every 7 years, but these now occur more often (e.g. every 3 years or so).

experienced. A suggested value chain with contributions from all three tiers of government, as well as commercial players, support industries and farmers, is shown below. The job creation potential of each of these links is shown in Table 6, as well as the necessary capital that either the state or the private sector would need to invest to establish these links and ensure that they work.

Figure 11: Potential value chain for small-scale livestock production

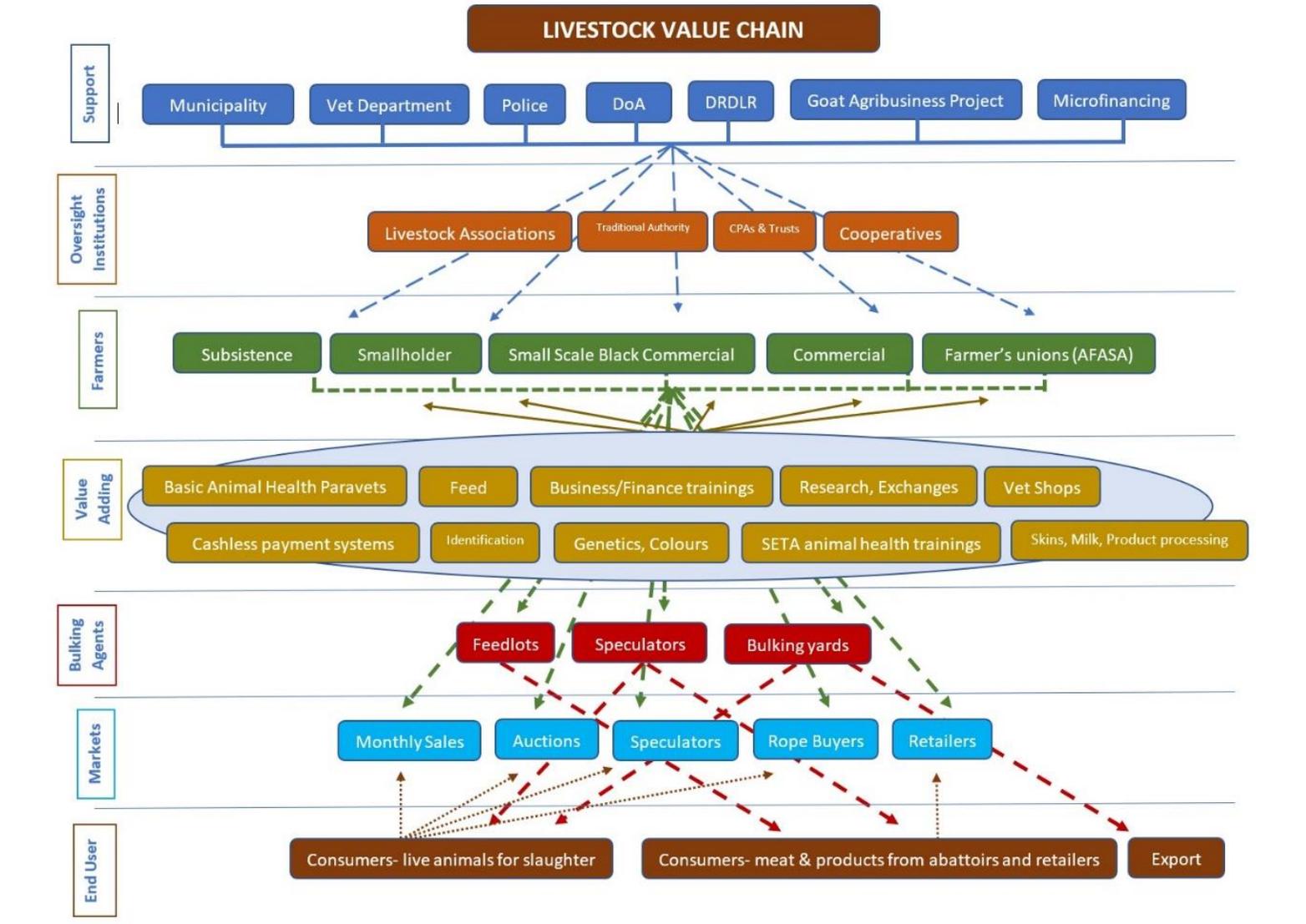


Table 6: Estimating employment creation in livestock value chains in ILLM

Value chain job opportunities				
Service	Number for the remaining land available	Narrative and details	Capital	Jobs
Vet shop	Vet shops at 6 centres in the municipality	6 businesses mainly stock and cold chain	100 000 per unit	18 jobs
Feed processing person Hammer mill and blockmaking	20 dip areas	20 at 1 per area hammer mill per area	40 000 per unit	40 jobs
Speculator	10 speculators	Each has 15 – 18 farmers that they servicing – need bakkie and 4 staff	200 000	50 jobs
Transporter	3 transporting companies	Each one needs a truck 6 ton double layer transporting system plus loading ramp	400 000	30 jobs
Skins	5 youth businesses	Sewing machine tools	20 000	5 jobs
Abattoir/butcher	4	Added to current 4 butcheries allow for smaller carcasses	50 000	8 jobs
Primary animal health	20 youth	Training and vet kit subsidised to start up	50 000	20 jobs
Preparing and grouping stock	20 youth	Tattooing kit and enclosure and feeding equipment – collect feed herd	20 000	40 jobs
Monthly sales	5 portable sales yard	7 gates and pins per group	25 000	10 jobs
Auctions	1 auctioneer	1 auctioneer going around the area holding auctions for prime stock for specific markets	150 000 3 auctions	10 jobs
Research	6 researchers	Researchers carrying out relevant research to small holder farmers; And a platform or exchanges to share research with farmer and other stakeholders	R20 000 per researcher Quarterly exchanges @ R15 000	6 jobs
Training	200 farmers receiving 30 days of training over a year	Training in basic animal health and improved	R300 per day per person, 30 days each, 225 people	2 trainers, 90 days of training Plus prep and travel

Value chain job opportunities				
Service	Number for the remaining land available	Narrative and details	Capital	Jobs
	20 CAHWs training of 30 days of training over year 5 youth receiving training for skins 30 days over a year	productivity and business skills		220 days
Genetics	2 annual auctions for high value breed animals	To get farmers to look at herd composition and sell best animals for high value	R50 000 per auction	10 jobs (collecting and transporting)
cashless	200 cards for sellers	A cashless system like ABSA cards where money can be loaded	R100 per card R20,000 total	1 job administrator
Feedlots	2	Very small scale feedlots that would be low value livestock, feed them locally available feed products and sell these on 3 months later	R70 000 for start up herd Fencing and feeding R50 000 Veterinary support R30 000 R150 000 total	12
Rope buyers	700	Farmers who are actively selling small amounts that make it worthwhile for a speculator in the area but aren't selling regularly	4000 goats at R1000 average R4,000,000	700
Totals				972

Bringing together the land potential, the value chain and jobs at the level of production, job creation potential is then estimated across the municipality. The land base includes both the land already redistributed and often lying moribund, and the rest of the land in the municipality available for transfer to small scale farmers, including so-called 'nature reserves' that people were forcibly removed from in the past. We also include potential jobs in vegetable production by small-scale producers, which are to be found in small areas of irrigation or on flood plains on farms. We base all our estimates on a redistribution of 50 percent of this land base.

Table 7: Estimating employment creation in vegetable production on redistributed land in ILLM

Farms and jobs	Production system for a commodity, jobs per ha (FTEs at 264 days/yr) <i>1.5 jobs per ha veg, vs existing commercial produces: 0.5 jobs per ha (Neves and Hakizimana 2016)</i> <i>Jobs include 1.3 per farm for farmer and family</i>	No. of farm units	Jobs created if 50 percent of commercial land is redistributed (i.e. 710 ha)
Total hectares under irrigated veg = 1 420 ha (assumed to be 50 percent of total of 2 840 under irrigation):	<i>Small/medium-scale black commercial farmers (10 - 30ha plots): veg under irrigation & other income sources (can be off-farm); median plot size of 20 ha; one third of irrigable land = 237 ha</i>	farms	356 gross jobs + 12x1.3 = 16 = 372 less 118 = 254 net jobs
Redistribute 50 percent: 710 ha	<i>Smallholders targeting (mostly) formal value chains (2 to 10 ha plots): veg under irrigation & other income sources (can be off or on farm); median plot size of 6 ha; two thirds of irrigable land = 473 ha</i>	79 farms	710 gross jobs +79x1.3 = 103 = 813 less 237 = 576 net jobs
Totals		91 farms	1 066 gross jobs 830 net jobs
Costs			
Land: cost of irrigated land in LM = R150 000/ha	20 ha farm @ R2 million = x 12 farms		R36 000 000
	6 ha farm @ R600 000 x 79 farms		R71 100 000
Total land cost			R107 100 000
Setup/establishment cost @ R62 514/ha (Source: Aliber, Sakhisizwe study)	20 ha farm @ R1 250 280 x 12 farms		R15 003 360
	6 ha farm @ R375 084 x 79 farms		R29 631 636
Total set up/establishment cost			R44 634 996
Costs per gross job			
Land			R100 469
Setup/establishment			R41 871
Costs per net job			
Land cost per net job			R129 036
Setup/establishment per net job			R53 777
Land and setup cost combined per net job			R182 813

Table 8: Estimating employment creation in livestock production on redistributed land in ILLM

Farms and jobs	Production system for a commodity, jobs per ha (FTEs at 264 days/yr)	No. of farm units	Jobs created if 50 percent of commercial land is redistributed
<p>Total hectares for livestock production 285 000 ha (Remaining area = 90 000 ha, less irrigated areas + urban sprawl = 80 000 ha + existing land reform farms 128 000 ha + Thukela biosphere and Gongola reserve 77 000 ha)</p> <p>Redistribute 50 percent: 142 500 ha</p>	<p>30 550 ha = grassland @ 350 ha for 100 LSU</p>	<p>87 farms</p>	<p>50 percent of jobs will be cattle related (2.5 jobs per farm) 50 percent are goat related (4.5 jobs per farm)= 7 jobs per farm</p> <p>609 gross jobs 1 job per farm displaced= 87</p> <p>522 net jobs</p>
	<p>42 100 ha = grass & savannah @ 528 ha for 100 LSU</p>	<p>80 farms</p>	<p>50 percent of jobs will be cattle related (2.5 jobs per farm) 50 percent are goat related (4.5 jobs per farm)= 7 jobs per farm</p> <p>560 gross jobs 1 job per farm displaced= 80</p> <p>480 gross jobs</p>
	<p>69 850 ha (60 percent) = bush & thicket @1076 ha per 100 LSU</p>	<p>65 farms</p>	<p>50 percent of jobs will be cattle related (2.5 jobs per farm) 50 percent are goat related (4.5 jobs per farm)= 7 jobs per farm</p> <p>455 gross jobs 1 job per farm displaced= 65</p> <p>390 net jobs</p>
Totals		<p>232 farms</p>	<p>1624 net jobs</p>
Costs			

Farms and jobs	Production system for a commodity, jobs per ha (FTEs at 264 days/yr)	No. of farm units	Jobs created if 50 percent of commercial land is redistributed
Land: cost of 142 500 ha	30 550 ha @ R10 000 ha 42 100 ha @ R3 000 ha 69 850 ha @ 800 ha		R305 500 000 R126 300 000 R55 880 000
Total land costs			R487 680 000
Set up/establishment cost Cattle, goats and goat dips (assumption is that farmers will bring 50 percent of livestock)	Cattle 2 900 @ R7250 (232 farms at 25 cows per farm (25 percent of LSU) and farmers will supply 50 percent stock) Goats 52 500 @ 1 200 (232 farms at 450 goats per farm (75 percent LSU) and farmers will supply 50 percent stock Goat dips 20 @ R20 000		R21 025 000 R62 640 000 R400 000
Total set up/establishment cost			R84 065 000
Costs per net job			
Land cost per net job			R349 980
Set up establishment cost per net job			R60 496
<i>Land and setup cost combined per net job</i>			<i>R410 476</i>

4. Conclusion

In summary, the estimated potential net job creation impact of land redistribution in Inkosi Langalibalele Local Municipality is considerable: a total of 2 222 jobs from a combination of livestock production and irrigated vegetables. The cost of this per net job would be R325 435. If livestock value chain jobs were included, at an average of 5.5 jobs per 100 LSU farm unit, then total net jobs created would amount to 3 498 at a cost of R206 723 per job.

Our recommendations are based not only the research conducted in this study, but also on over 50 years of collective experience in the fields of rural development and production support for African livestock farmers. Based on this experience, two of the authors launched a pilot project over the last six years known as the Goat Agribusiness Project (GAP), in which around 25 000 small scale farmers located in five districts of KwaZulu Natal, including Inkosi Langalibalele Local Municipality, have participated. The findings from this pilot suggest strongly that government should adopt a totally new approach to smallholder farmers, who are likely to be the farmers of the future. They will be recruited from the ranks of the youth of today, and many will be women.

Our emphasis on livestock farming as the primary focus point for employment-intensive land reform arises from this experience. Over 80 percent of South Africa's rural land is semi-arid and thus not suitable for cropping. This land is getting drier and suffers from bush encroachment. Research over the past ten years has shown that there is a pattern of increasing droughts that makes cattle production increasingly difficult (Vetter *et. al.* 2020).

Farming with small stock seems to be the answer, since they are more drought resistant, are more efficient at browsing grass and trees, and most of the current national herd is already owned by small-scale black farmers.

It is a bonus that many of these farmers are women, who tend to be more amenable to external support and the notion of paying for services. Because the veterinary department works in most rural communities, on the lookout for controlled diseases, organisational structures exist that oversee livestock diseases, attempt to prevent stock theft and mediate social interactions around livestock. Farmer groups that already exist and meet without any significant intervention from the state are somewhat unique in South Africa.

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