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Chapter

The Role of Culture in Achieving Sustainable Agriculture in South Africa: Examining Zulu Cultural Views and Management Practices of Livestock and Its Productivity

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Abstract

Africa continent has been said to lag behind in agricultural growth and development which has led to organizational and structural failures. Many factors have been investigated to this effect such as poor infrastructure, inadequate factors of production, poor energy, lack of modern agricultural facilities, etc. Cultural practices and the acceptability of advanced skills and knowledge have been less investigated as militating factors against agricultural growth and development. This chapter evaluates the Isi-Zulu cultural agricultural views and management practices of livestock on its productivity. A study was conducted at Umsinga municipality (Southeast of South Africa), dominated by Zulu culture. Small scaled farmers within the communities were engaged through a survey and focused group discussion. Prior research visits were made to the communities with chiefs and agricultural extension workers. A total of 90 small scaled farmers were selected across the municipality for this study. A survey was administered in the local language of the correspondence. Data showed that cultural purposes and management practices have been a limiting factor in livestock production. These have hindered agricultural growth and commercialization of livestock within municipality and province.

Keywords: cultural believes, management practices, Zulu, agriculture, livestock, gender ownership, goats and cattle

1. Introduction

Agriculture, among all other sectors, has proven to have a closer relationship with natural resources and her impacts have been significant to mankind over the centuries [1]. Livestock farming has contributed tremendously to the livelihood and social status of humans [2].

This sector has been lacking behind compared to others in developing countries. There are very few partnership and corporate organizations in the agricultural sector, because the factor of production is costly (such as the inability to acquire land, low land nutritional value, the high cost of mechanization, lack of capital and access to good roads, etc.) [3]. Therefore, many farmers prefer to operate individually. This gives rise to

many smallholders than commercial farmers in developing countries [4]. Statistically, smallholder farmers have been found to contribute largely to the agricultural industry, especially in developing countries [1]. Also, it was reported that local production had contributed a larger quota (63%) to the total livestock population in South Africa [5, 6]. More research has been conducted to improve, increase production efficiency and solve some challenges facing small-scale farmers [4, 7].

As indicated by other researchers, there are other problematic factors facing small scale farmers and limiting livestock production in Africa [8]. According to Vink and Rooyen [9], there were 8 million households in South Africa located in rural areas in 2006, of these 17% (1.3 million households) had access to land for farming purposes and 97% of those households engaged in some form of farming activity. Recent data shows that 43% of South Africans can be referred to as 'rural survivalists' [10]. Most households clustered in former homeland areas; the current households in KwaZulu-Natal were said to be located on relatively small plots of land [9]. They depended on multiple livelihood strategies with farming being an important but small contribution to livelihoods. At that time 78% of households engaging in agricultural production did so as an extra source of food for the household, 6% as an extra source of income, 3% as the main source of income and 8% as the main source of food. These smallholders, characterized by small plots of arable land and low output [11], are faced with a wide range of challenges including limited access to factors of production, credit, information and markets [12].

It is factual that the smallholder sector in South Africa is striving to provide employment and food security [13]. But the critical issue is how these farmers can improve their competitiveness by participating sustainably in agri-food supply chains [12]. Other factors that are recently identified and less investigated affecting agricultural development are gender ownership, inherited cultural management practices and cultural belief systems of certain livestock [14]. Rural farmers still hold the belief that livestock farming is not a source of income and it becomes a major barrier to commercialization of goats and cattle particularly in the agricultural industry [15–17].

Therefore, this study aimed at determining the effect of cultural views and management practices on livestock commercialization; secondly, evaluating livestock gender ownership and its productivity effect on socioeconomic development at Umsinga municipality.

2. Materials and methods

2.1 Selection of study site

The study was conducted at Umsinga Municipality, KwaZulu-Natal province, Southeastern part of South Africa. The study site is located on the geographical coordinates 28.7461° S, 30.4525° E [6]. Department of Agriculture and Environmental Affairs (2013) reported that 11% of the total surface area of South Africa was classified as arable, whereas 54% was classified as grazing land. KwaZulu-Natal province is listed as the second largest agricultural producing province in South Africa, in terms of agricultural households in livestock production [6]. Also, KwaZulu-Natal had 28.2% of its provincial population of households involved in agriculture while 41.9% out of this population are involved in livestock production [6]. Based on the agricultural involvement of the households in the province, this municipality was selected.

Umsinga Municipality is dominated by IsiZulu ethnic group, situated in central KwaZulu-Natal Province [18]. The Umsinga Municipality has a rainfall varying

between 550 and 2000 mm per annum over a landscape ranging up to altitude 3500 m above the sea level. Its temperature varies from the hot subtropical areas of north-eastern KwaZulu-Natal to the western parts where winter frost is a regular occurrence and snow is experienced from time to time [5]. It has a total landscape of 2501 km² [18].

2.2 Selection of households and livestock

Prior visits to the communities during the feasibility study and supports by the extension and veterinary workers' meetings were organized with local authorities such as chiefs, smallholder farmers and livestock associations. A list of farmers keeping livestock (having goats or cattle or both) from each community was compiled for follow-up. In the process, the aim and purpose of the research project were disseminated to create interest and develop an interpersonal relationship with farmers. A total of ninety (90) smallholder farmers were selected based on their willingness to participate and across the municipality. These farmers engaged in a mixed system of farming. The crop production system is divided into two: Irrigation and garden farming system. Each household has allocated a portion of an irrigated plot which is part of the community irrigation scheme. The garden plot is the individual cultivated land around the settlement.

2.3 Research procedure

2.3.1 Survey

A survey was conducted to explore the existing chains and potential value for goats and cattle towards the gross socioeconomic value in Umsinga, and its opportunities for increasing the impact. Data were collected through personal engagement of selected livestock farmers using pre-tested questionnaires and by direct observation of livestock management practices, feeding systems and feed samples. The questionnaire was conducted from February to April 2017. The questionnaire was translated into the local language (IsiZulu) for a proper understanding of the concept.

2.3.2 Data collection

Data collection was divided into three categories: (1) Livestock production growth by the gender ownership. Number of livestock (goats and cattle) was recorded over a period of 12 months (May 2017–April 2018). During this time, production, mortality was recorded based by the gender ownership. (2) Livestock management routine by the gender ownership. This session recoded basic information of daily management routine of farmers such as feeding, farming system and animal health care. (3) Livestock usage by the gender ownership. This section investigates main reason for rearing livestock such as cultural prestige, income, milk and beef production and also identifying main tool for livestock increase (buying, production or gifts).

2.3.3 Focused group discussion

A total of 90 households were selected across the municipality. The aim of the discussion was to evaluate the cultural view, communal management practices, and identify available marketing opportunities of goats and cattle. Focus group discussion (FGD) was organized within each community using their local livestock

association groups. These local groups were formed within the community and they hold weekly meetings for a year. The local groups were in charge of dipping-tanks within the communities and ensure equal access to all livestock farmers. Data collected through FGD helped to verify data obtained through questionnaire interviews. It helped to identify the communal livestock management practices and community views about livestock. It also created an opportunity to discuss livestock health issues such as diseases in the area, malnutrition (feeding management), purpose for keeping livestock and usage of an irrigation scheme for livestock production.

2.4 Statistical analysis

Questionnaire and FGD data were analyzed by frequency procedure of Statistical Analytical Software. Livestock population was analyzed by the general linear model procedure. Frequency procedure and regression procedure were used to determine the annual livestock populations [19]. The statistical model was as follows:

$$Y_{ij} = \mu + G_i + e_{ij} \quad (1)$$

where Y_{ij} = dependent variable (livestock numbers over 12 months); μ = overall mean; G_i = effect of gender owners and e_{ij} = residue error.

3. Results

3.1 Descriptive statistic on livestock production by gender ownership

Majority of homesteads (84%) has goats compared to cattle (69%). The population of goats in possession by homesteads was higher compared to other livestock (cattle, poultry, and sheep) (Table 1). The gender ratio (male to female) of owners was 2:5, while the ratio of the animal population owned by these genders was 4:6 (Table 1).

| Livestock | Communities | Gender of owners | | Animal population owned by | |
|-----------|----------------------|------------------|--------|----------------------------|--------|
| | | Male | Female | Male | Female |
| Goats | Madulaneni | 16 | 9 | 273 | 200 |
| | Ntanyana | 21 | 3 | 411 | 12 |
| | Nxamalala | 17 | 10 | 793 | 108 |
| | Total | 54 | 22 | 1477 | 320 |
| | Ratios (male:female) | 2.5 | | 4.6 | |
| Cattle | Madulaneni | 8 | 10 | 73 | 46 |
| | Ntanyana | 25 | 3 | 277 | 7 |
| | Nxamalala | 7 | 8 | 173 | 89 |
| | Total | 40 | 21 | 523 | 142 |
| | Ratios (male:female) | 1.9 | | 3.6 | |

Table 1. Distribution of livestock ownership among the sampled population across the communities.

The ratio of gender ownership (male:female) for cattle is 2.9 households, but the ratio of the population of cattle owned is 3.6 respective (**Table 1**). The average populations of cattle per male owner and per female owner were 13 and 7, respectively. Females do not like keeping cattle because of the attention demanded in cattle management, such as herding [20]. There was an increase in cattle population among the male owners while it decreases among the female owners (**Table 2**). This was because the male receives cattle gifts as part of cultural and ceremonies.

3.2 Socioeconomic impacts

Most of the population sampled was rearing livestock for prestige (FGD). The cultural understanding and set up in the community give regards and honor livestock farmers based on the number of livestock, especially goats and cattle possessed by individual farmers. This agreed with the findings made by [6]. Census agricultural household (2013) reporting that 41.9% of agricultural household in KwaZulu-Natal are livestock farmers and 24.6% of agricultural households practice mixed farming.

3.3 Ownership by the gender, cultural beliefs and management practices on livestock production

The system of livestock husbandry at Umsinga is casual and cultural, and is not an organized activity because of the following reasons:

More male than female owners use modern medicine to cure goats ($P < 0.0001$; **Table 3**). Among the population sampled, 4 and 10% of female and male owner respectively, uses traditional medicine and engages in dipping practices. The percentages of male and female owners using modern medicine were 57 and 19%, respectively (**Table 3**). Vaccination program for livestock is poor and the cultural medicinal routine treatment is not better. It was discovered during the focus group discussion that a majority of farmers cannot identify or prevent in advance against infections that come with changes in season in these communities; thereby exposing livestock to seasonal diseases. Farmers only call for veterinary treatment when a disease outbreak has struck the kraal. As a result of delayed treatment, there is a high rate of mortality across seasons. Male owners have more financial funds for modern treatment than female owners.

About 32% male and 9% of female owners buy feed and feed crop residues (**Table 3**). There is a high proportion of male than female headed households use dryland crop production (Chi-square 4.7744, $P < 0.05$, **Table 3**). Questionnaire results indicated that farmers had little, or no supplementary feed offered to livestock. Animals only depend on feed found on communal grazing lands, which

| | Year (N) | Gender | | RSME | P value |
|--------|----------|-------------------|-------------------|---------|---------|
| | | Female | Male | | |
| Goats | 2012 (n) | 11.7 ± 11.85 (23) | 20.6 ± 58.25 (43) | 47.7960 | 0.4044 |
| | 2013 (N) | 10.3 ± 13.05 (22) | 25.0 ± 64.47 (54) | 52.8919 | 0.2132 |
| Cattle | 2012 (n) | 4.6 ± 8.87 (20) | 8.9 ± 11.16 (29) | 10.4351 | 0.0676 |
| | 2013 (N) | 6.0 ± 12.57 (21) | 7.5 ± 13.73 (41) | 13.3453 | 0.6037 |

Table 2.
 Mean of livestock numbers for different genders in Umsinga over the period of 2 years.

| Management routine | Female (%) | | Male (%) | | Chi-square | P value |
|------------------------------|------------|-------|----------|-------|------------|---------|
| | No | Yes | No | Yes | | |
| Dry land crop production | 32.22 | 2.22 | 48.89 | 16.67 | 4.7744 | * |
| Homestead garden | 31.11 | 3.33 | 62.22 | 3.33 | 0.657 | NS |
| Irrigation farming | 10.00 | 24.44 | 18.89 | 46.67 | 0.0005 | NS |
| Goats (traditional medicine) | 30.00 | 4.44 | 55.56 | 10.00 | 0.0909 | NS |
| Goats (modern medicine) | 15.56 | 18.89 | 8.89 | 56.67 | 10.989 | ** |
| Goats (dipping) | 30.00 | 4.44 | 46.67 | 18.89 | 2.8757 | NS |
| Goats (buying feed) | 26.67 | 7.78 | 41.11 | 24.44 | 2.0128 | NS |
| Goats (crop residues) | 32.22 | 2.22 | 58.89 | 6.67 | 0.3469 | NS |

**Significant (P < 0.05); **Significant (P < 0.005); ^{NS}Non-Significant (P > 0.05).*

Table 3.
Variation in goats' management routine as affected by gender.

are totally dried and insufficient during winter grazing (sweet veld). Other standing forages are sour veld grasses (low nutrient grasses that can withstand dry season); therefore, animals struggled in search of food. For example, data showed that livestock is not allowed to graze on irrigated farming plots but are allowed on homestead gardens of individual farmers.

Almost 46.67% of male owners' and 24.44% of female owners practice irrigated farming, but only 8.89% (both genders) fed crop residues from the farm to livestock (**Table 3**). Nearly 23 and 7% of male and female owners dip livestock and have homestead gardens (**Table 3**). Farmers do not allow livestock to graze on irrigating farming plots and very few release livestock to graze on homestead gardens (after harvesting). Therefore, livestock is only allowed access to maize-stover when it was planted in home gardens.

It's also revealed in **Table 4** below, how the gender of owners across the communities affects interest in livestock and how it met specific purposes across communities. Goats are a major source of income among other goat purposes across these communities with fewer females than males benefiting (Chi-square 7.9537, $P < 0.001$, **Table 4**). The male owner (45.56%) recognized goat production to this effect, compared to female ownership (13.33%). Other uses of goats are as follows: goats' cultural purposes (54.45%), goat's meat (51.11%), goats' prestige (36.67%), and goats' milk (4.44%; **Table 4**). Umsinga farmers reared goats for social and cultural purposes than economic interest. Less than 4.44% of the population surveyed indicated that they milk goats, but not regularly. Whenever this milking is done, is for the head of the family only.

There are quite a few differences in the use of goat. For instance, female perspective goes for meat, prestige and cultural purposes (18.90, 16.67 and 15.56%, respectively), while male perspectives go for income, meat and cultural (45.56, 32.22 and 33.78%), respectively (**Table 4**). The cultural purpose is common and higher in male owners than female. It is a pointer to the fact that cultural purposes prevail above all other benefits to these owners. This agreed with the study made by [21–23] that African farmers have specific reasons or purposes for rearing livestock.

Only a small proportion of female (2.22%) and a reasonable proportion of male (25.56%) owners buy feed to supplement cattle feeding during the winter season (Chi-square 10.72, $P < 0.001$, **Table 5**), while 2.22 and 10.0% of female and male owners' gives crop residues. About 70 and 3.33% of owners treat their cattle with

| | | Female (%) | | Male (%) | | Chi-square | P value |
|----------------|-------------------------|------------|-------|----------|-------|------------|---------|
| | | No | Yes | No | Yes | | |
| Goat purposes | Goats income | 21.11 | 13.33 | 20.00 | 45.56 | 7.9537 | ** |
| | Goats meat | 15.56 | 18.89 | 33.33 | 32.22 | 0.263 | NS |
| | Goats milk | 32.22 | 2.22 | 63.33 | 2.22 | 0.4486 | NS |
| | Goats cultural purposes | 17.78 | 16.67 | 27.78 | 37.78 | 0.6996 | NS |
| | Goats prestige | 18.89 | 15.56 | 44.44 | 21.11 | 1.4694 | NS |
| Goats increase | Goats buying | 33.33 | 1.11 | 61.11 | 4.44 | 0.4892 | NS |
| | Goats reproduction | 25.56 | 8.89 | 27.78 | 37.78 | 8.2677 | ** |
| | Goats gifts | 32.22 | 2.22 | 58.89 | 6.67 | 0.3469 | NS |

**Significant (P < 0.05); **Significant (P < 0.005); ^{NS}Non-Significant (P > 0.05).*

Table 4.
 Uses of livestock (goats) as affected by the gender of owners.

| Cattle | | Female (%) | | Male (%) | | Chi-square | P value |
|------------------|-------------------------------|------------|-------|----------|-------|------------|---------|
| | | No | Yes | No | Yes | | |
| Health routine | Cattle (traditional medicine) | 33.33 | 1.11 | 63.33 | 2.22 | 0.0017 | NS |
| | Cattle (modern medicine) | 11.11 | 23.33 | 18.89 | 46.67 | 0.1148 | NS |
| | Cattle (dipping) | 11.11 | 23.33 | 18.89 | 46.67 | 0.1148 | NS |
| | Cattle (buying feed) | 32.22 | 2.22 | 40.00 | 25.56 | 10.7200 | ** |
| | Cattle (crop residues) | 32.22 | 2.22 | 55.56 | 10.00 | 1.4678 | NS |
| Cattle purposes | Cattle income | 21.11 | 13.33 | 33.33 | 32.22 | 0.8935 | NS |
| | Cattle meat | 20.00 | 14.44 | 47.78 | 17.78 | 2.0429 | NS |
| | Cattle milk | 32.22 | 2.22 | 63.33 | 2.22 | 0.4486 | NS |
| | Cattle cultural purposes | 20.00 | 14.44 | 50.00 | 15.56 | 3.2078 | NS |
| | Cattle prestige | 22.22 | 12.22 | 55.67 | 8.89 | 5.8655 | * |
| Cattle increases | Cattle buying | 32.22 | 2.22 | 61.11 | 4.44 | 0.0035 | NS |
| | Cattle reproduction | 27.78 | 6.67 | 41.11 | 24.44 | 3.0495 | NS |
| | Cattle gifts | 32.22 | 2.22 | 56.67 | 8.89 | 1.0395 | NS |

**Significant (P < 0.05); **Significant (P < 0.005); ^{NS}Non-Significant (P > 0.05).*

Table 5.
 Management and uses of livestock as affected by the gender of owners.

the modern and traditional medicine respectively, while 70% take their cattle for dipping. FGD indicated that the farmers do not have management practices of buying grass (Lucerne hay) to support cattle nutritionally.

Only 25.56% of male owners buy feed perhaps because of their financial capability. Financial handicap owners were also a factor affecting modern medical treatment of cattle. Dipping treatment is free and the reagent use is provided by the Department of Agriculture and Environmental Affairs, many owners prefer dipping to traditional medicine. Similar proportions of male and female used cattle for meat (total 32.22%), cultural purposes (total 30.0%), rear cattle for income (total 45.55%) and cultural prestige (total 21.11%), and keep cattle for income (total 43.55%).

4. Discussion

4.1 Livestock production as influenced by the gender of owners

There was a decrease in goats' population among female owners over 12 months (1.4) while it increases among the male owners (5.6) (Table 2). The disparity in the population of goats owned is very wide compared to the gender of owners. This is due to some biased gender factors which had favored the men such as (a) cultural position of men. Men are regarded as heads of households and have a final decision on livestock. (b) Men are more traditionally inclined and are not easily deviated from cultural beliefs and practices. Men in these communities appreciate goat because it is widely accepted for cultural ceremonies like ancestral worship, a minor part of the *lobola* and special family community occasions (FGD). Goats are used to pay sexual harassment penalty and minor community fine [24]. These agreed with the findings of the focus group discussion. (c) The average population of goats per men ownership was 27 goats per ownership. It was discovered from the focus group discussion that men tend to keep goats as prestige in the municipality. The average population of goats per female owners is 22; this is because few goats owned by females was possessed at old age (i.e. eldest in the family) or when their husbands are late. Therefore, before female owners reach the disadvantage stage (either old age or widowhood) which gives them an edge and the right of ownership in the household. The government can encourage women livestock owners through projects/policies and programs. This cultural trait in IsiZulu is similar to Xhosa culture of South Africa, where livestock ownership (cattle) is concentrated entirely in the male hands [25].

Culture in South Africa is similar to that of Southern Tanzania as reported by [26], that woman cannot claim ownership of cattle and goats. In the case of a married woman who had an ownership contract of cattle and goats, the animals still belong to the man, even after divorce [26]. More opportunity was given to women in Zimbabwe, where women have control over milking, processing and marketing of milk but cannot influence other decisions such as breeding, feeding and slaughtering [27]. Women are only allowed to own poultry and small ruminants in Botswana [28]. This agreed with the reported by the Food and Agricultural Organization [29] that poultry keeping is largely the responsibility of women in Africa. Furthermore, projects to improve poultry productions were often seemed like a way to reach poor rural women [8]. This painted a picture that cultural behavior in Africa has shifted poultry farming to women.

This cultural practice agreed with [29, 30] findings in Niger, where the man takes control of all livestock used as part of dowry after the marriage. Nuer Society of Sudan does not permit women to own cattle and goats at all as part of their cultural practices, but they have the responsibility for grazing these animals [31]. However, this practice is contrary to the animal husbandry system in Pakis where women have the full ownership control over livestock brought as part of their dowry [32]. Also in Malawi, where women are head of households, they have a total influence on the livestock they process [33]. Studies showed that livestock ownership between genders is becoming an equity in Africa; Zimbabwe and Mozambique [27], Botswana [28], Namibia [34], Malawi [33], Nigeria [35], Kenya [36], Uganda [36].

In stipulations of the population of livestock across communities, goats had the highest population, followed by cattle while poultry and sheep were the smallest populations sampled. The highest population of goats is because goats are slaughtered for more cultural functions by Nguni people. So many households tend to rear more goats and cattle than other animals. Cattle were the second highest in the

livestock population because it's another livestock that is mostly used for cultural functions. Cattle are used for *lobola* package during "marriage negotiation" in preparation for the cultural wedding. Male owners have more goat and cattle than female owners because they are financially constrained to avoid cattle "thus goats are poor men's cow" (Table 1). Due to the environmental and nutritional stress of livestock during the dry season, small-holder farmers in the study site found it easier to manage goats than cattle. Goats are owned by many because (1) it is more affordable than cattle, (2) it can survive harsh environmental conditions, (3) it is a mixed feeder, especially during dry seasons when grasses lose nutrients, and it switches to browsing.

4.2 Socioeconomic benefits

Apart from the cultural benefit, there are also economic benefits. Many livestock farmers have an economic gain from livestock production. This is by individuals selling livestock to friends and butchers. Most times this is done when such an individual farmer is in financial need. Furthermore, Focus Group Discussion revealed that goats play an important role within the cultural activities; goat slaughtering is forbidden unless the head of the household gives contrary instructions. Livestock (cattle) is also used as cultural gifts (*Lobola*) to each other (FGD). *Lobola* is a cultural bride's gift from the groom's family parked together with bride price paid to the bride's family.

Livestock plays a major role in the bride's price ceremony is not complete without the cattle gift. The most important recognized socioeconomic benefit of goats is the usage in ancestral worship (FGD) which is an inherited cultural practice and belief among IsiZulu ethnic group of South Africa. This practice had been sustained alongside with this cultural practice; farmers keep or sell hide of goats and cattle. The hide is used as a pelt for sitting or designed as a cultural dress of IsiZulu people. This justified the impact of livestock to mankind apart from companionship, income, hide and skin, reported by [37]. It promotes inter-social relationship and serves as a means of legal local bills in communities. It also agreed with livestock impacts in Botswana reported by [38] that it is an important household asset in providing security, money, food, cultural and social identity, draught power, skin, hide and medium of exchange. World Bank [30] also reported that livestock production is a very important socioeconomic activity. Therefore, cattle and goats have not lost their socioeconomic benefits in the IsiZulu culture.

4.3 Effect of gender ownership, cultural beliefs and management practices on livestock production.

4.3.1 Goat productivity

The distribution of small ruminants in South Africa is not even and numbers tend to be higher in dry areas [5]. Flock sizes, especially are larger in dry than in humid areas [39]. Goats are reared among the IsiZulu tribe mainly for four major benefits, namely: meat, milk, skin and wool in this order of importance [40]. The majority of small ruminants are owned by individuals or families in community areas. Majority of farmers practice mixed farming which includes large variations of annual crops (maize, vegetables) and livestock (swine, poultry small and large ruminants) [8].

Annual crops like maize, vegetables (spinach, cucumber) and livestock like poultry, swine, small and large ruminant animals (FGD). All respondents (small-holder farmers) engaged in free-range systems of farming and graze on communal

lands. Due to high rates of tick infestation, farmers through their groups and associations established dip-tanks within the community as a means of control.

No good flock management is practiced for a frivolous reason; farmers only rear for social purposes. FGD recorded that farmers practiced similar livestock farming system which has become a cultural norm in the area. It is a system whereby farmers have limited contribution (input and almost no feed) to the production. The only consistent management routine in goat rearing is the administration of modern medicine. Farmers find it easy to spray, drench, rub and inject goats.

It was observed that farmers have poor housing and tethering of livestock. A rural livestock farming system by both genders are the same but it affects livestock productivity because of inadequate facilities. This observation agreed with the study reported by [40] that small ruminant production in traditional systems throughout tropical Africa is fair. Small ruminants are generally recognized for their importance and contribution to mankind, especially in the tropics [28]. However, Africans who keep small ruminant stock rear it for irrational reasons for meeting particular needs and specific objectives of owners [29].

4.3.2 Cattle productivity

Improvement in cattle feeding through supplementation with additional feed source (such as silage and hay) will contribute greatly to cattle production. Observations during forage sampling at different seasons showed that cattle struggle to feed (graze) on communal pasture during the dry and early wet season because communal grazing lands are fully mature. It was noted during the focus group discussion, that Umsinga farmers treat cattle as livestock that do not need much attention and adequate management routine. Umsinga farmers believed that cattle have the ability to serve as draught animals and it is also a major factor in the opening up of arable areas, especially in places with heavy soils [41].

Large families during festive period do slaughter cattle for meat purposes as indicated from the focus group discussion and for cultural ceremonies. Apart from cattle being a source of income, the skin is culturally used for mat, decoration and clothing among the IsiZulu tribe. Another attribute of cattle farming in Umsinga communities is that the number of cattle herd is a form of prestige within the community. This has drawn the interest of many owners into the farming system. Cattle are rarely milked.

5. Conclusion

Livestock gender ownership has a great influence on goats and cattle productivity in Umsinga Municipality. Gender differences based on the cultural views, purposes and norms are affecting the commercialization of goats and cattle. The input of ownership by gender also made a difference in livestock productivity. Financial constraints and labor required for livestock management routines is also a barrier to production. By way of commendation, from all observations and surveys, a change of perspective will bring a positive change to livestock production in Umsinga community. Empowerment program towards the maximum profit of livestock production, especially as a source of income will change the socioeconomic and developments in the Municipality. This will encourage farmers to improve management practices, adequate health program and good breeding selection. Second, proper establishment and management of cultivated pastures specific for livestock

and water availability will greatly influence the production performance of livestock. Third, livestock farmers should be educated in forage conservation methods such as silage, hay and other management practices. Since most farmers are practicing mixed farming, it is easier to prepare and store hay from crop residue. Fourth, training to observe symptoms of common diseases and how to prevent should be created among farmers.

5.1 Implications of this study

This study shows that continuity in cultural believes and management practices poses no future for agriculture growth and commercialization of livestock in South Africa. As culturally belief, the impact of gender ownership on livestock is another factor limiting female ownership in livestock farming. Though cultural practices cannot totally eradicate or change but farmers mind set can be influence to towards agricultural growth and sustainability. Also, initiating livestock farming as a source of income will improve socioeconomic livelihood of rural farmers.

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Conflict of interest

There was no conflict of interest among all authors.

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