

The status of livestock production in communal farming areas of the Eastern Cape: A case of Majali Community, Peulton

S. Goni^{1#}, A. Skenjana² & N. Nyangiwe³

^{1,3}Döhne Agricultural Development Institute, Private Bag X15, Stutterheim 4930, South Africa

²Eastern Cape Department of Economic Development, Environment Affairs & Tourism, Private Bag X 9060, East London 5200, South Africa

Abstract

About 70% of South Africa's total area is suitable only for livestock production. Although livestock are found throughout the country, the highest numbers are concentrated in the Eastern Cape Province. The main objective was to assess the status of livestock production in the communal farming areas of the Eastern Cape. A survey using participatory rural appraisal (PRA) and structured questionnaires was used to collect the data on the status of livestock production in communal farming areas of the Eastern Cape. The data was analyzed using in Statistical Package for the Social Sciences (SPSS) software. All of the 70 households interviewed were livestock owners and consisted of respondents of about 55 years of age. There was a variation on village herd structure and herd distribution per household and farmers kept cattle for various reasons. The need to keep the balance of milk and meat products was observed on the breed choices and enterprise choice. Lack of knowledge, improper institutional arrangements and diseases were highlighted as the major challenges facing communal livestock production.

Keywords: Communal farming, herd structure, livestock, participation, respondents

#Corresponding author: sindisile.goni@drdar.gov.za

Introduction

The communal farming areas of the Eastern Cape Province are characterized by villages, which consist of a residential area, cropping area and grazing area. The residential area is allocated for each household together with a piece of land as a household garden and another piece as a cropping field, with grazing land shared by all the households for their different livestock. It is common practice that in each household there are cattle, sheep, goats, pigs and horses and donkeys in some households. These animals are to some extent kept as an investment and sold when there is a need for money (Goqwana *et al.*; 2008), such as to pay school fees for the children or assist a relative in situations of need. There are different reasons for keeping livestock among rural dwellers. Their reasons are different from the reasons that an agriculturalist would expect from a farmer (Bembridge, 1989).

Eastern Cape has the highest number of livestock with cattle constituting 24%, goats 38% and sheep 29% of the national livestock (National Livestock Statistics, 2017). Furthermore, the majority of these livestock (78% of cattle, 40% of sheep and 77% of goats) is found in the communal farming sector compared to the commercial farming sector (National Livestock Statistics, 2006). However, livestock off-take rate is low in the communal cattle production system of South Africa, with off-take rates of between 5 and 10%, compared to 25% in the commercial sector. (Musemwa *et al.*, 2010; Scholtz & Bester., 2010; Meissner *et al.*, 2013). This study calculated cattle off-take rates as the number of animals marketed and slaughtered as a percentage of total animals kept. From an animal production perspective, the off-take, in any enterprise with a breeding unit, should be equitable to the reproductive rate. The reproductive rate in the commercial sector for beef cattle is reported to be in the range of 61% (Scholtz & Bester, 2010). Although it is relatively unknown for the communal sector due to the lack of records, Scholtz & Bester (2010) estimated low reproductive rate ($\pm 48\%$) in communal livestock farming.

The fact that the majority of livestock is under the communal sector and productivity from the sector is low implies that there is a potential for improvement in livestock production and increased supply of meat and income generation from the industry. This will then contribute towards the realization of some of the Provincial Department of Agriculture strategic objectives aimed at promoting livestock development, reducing poverty through increased food production, while promoting sustainable utilization of natural resources and stimulating economic activity from agriculture. Sales of milk and eggs provide a continuing flow of cash, a particularly important factor as farm families' move from subsistence to cash-based economies (Fitzhugh *et al.*, 1992).

Therefore, to bring about change in a system, it is crucial to evaluate the status quo and quantify it. Against this background, the aim of the project was to assess the status of livestock production in the communal farming areas of the Eastern. This was done by collecting views of communal livestock owners on livestock production practices to help in the identification of possible opportunities and limitations for the community towards improved livestock production.

Materials and methods

Study site

The study was conducted at Majali Community (32°44'57.37" S; 27°30'46.37" E) with an altitude of 609 m, under Amathole District Municipality in the Eastern Cape Province. Nyangiwe *et al.* (2013) reported the highest mean temperature as 26 °C during hot-wet season and 7 °C during cool dry season in the study area. The average annual rainfall fluctuates between 500 to 900 mm. The vegetation type is classified as Bhisho Thornveld according to Mucina and Rutherford (2006).

Data collection and analysis

Focus group discussions and structured interviews were conducted with community members engaged in livestock keeping. In addition, questionnaires were piloted before being systematically administered to 70 households between March and April of 2007. The questionnaire included questions concerning different aspects of livestock management such as reproduction, marketing, nutrition, diseases, grazing, infrastructural and institutional arrangements, household demographics and household economy. The Microsoft Office Excel 2010 software package was used to capture the coded data. This made it easier to check for mistakes before analysing the data.

The data were entered in Statistical Package for the Social Sciences (SPSS) software and organized in tables and figures and further described and analyzed following descriptive statistics.

Results and Discussion

Most of the respondents interviewed were old and either fathers or husbands followed by mothers or wives with a percentage of 50.7 and 36.6 respectively (Fig 1). The higher percentage of male respondents implies that cattle farming are dominated by male farmers in the community. This observation was similar to that of the many documented work done on communal livestock production in South Africa. Contrary, this finding was not assenting the findings reported by Moyo *et al.* (2008) who reported women as most interviewed respondents in 553 households in the Eastern Cape Province. This could have been compounded by having conducted the study on one community, thus giving a skewed gender representation. It probably would not have had the same result, had the study been conducted on more than one community. All respondents, male and female ranged from 29 to 86 years with a mean age of 55 years old (Table 1).

Table 1 The average age of the respondents

Variable	Class	Mean	Minimum	Maximum
Age (years)	Father/husband	58.26	30	86
	Mother/wife	61.42	43	83
	Son/nephew	43.00	29	53
	Daughter/niece	47.00	34	54
	Uncle/aunt	65.00	65	65

The mean age of the respondents interviewed was comparable with the other many findings of the studies done in the Eastern Cape Province and Limpopo Province on communal and small-scale livestock production (Goqwana *et al.*, 2009; Uddin *et al.*, 2012, Sikhweni & Hassan., 2013, Mthi *et al.*, 2018).

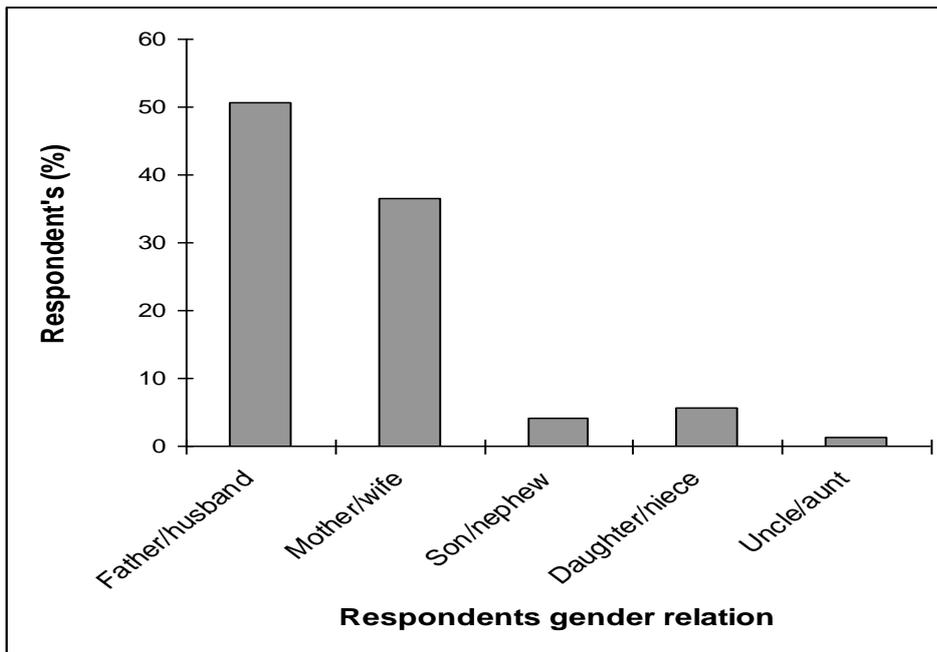


Figure 1 Relation of respondents to household

Marginal percentage of respondents (14%) had 50 years of livestock farming experience compared to 28% of respondents that had 10 years of livestock farming (see Figure 2). The difference may have been caused by the new arrival of some of the community members from the surrounding farms and communities.

There were no significant differences ($p > 0.05$) in livestock numbers due to respondent's years of livestock farming experience.

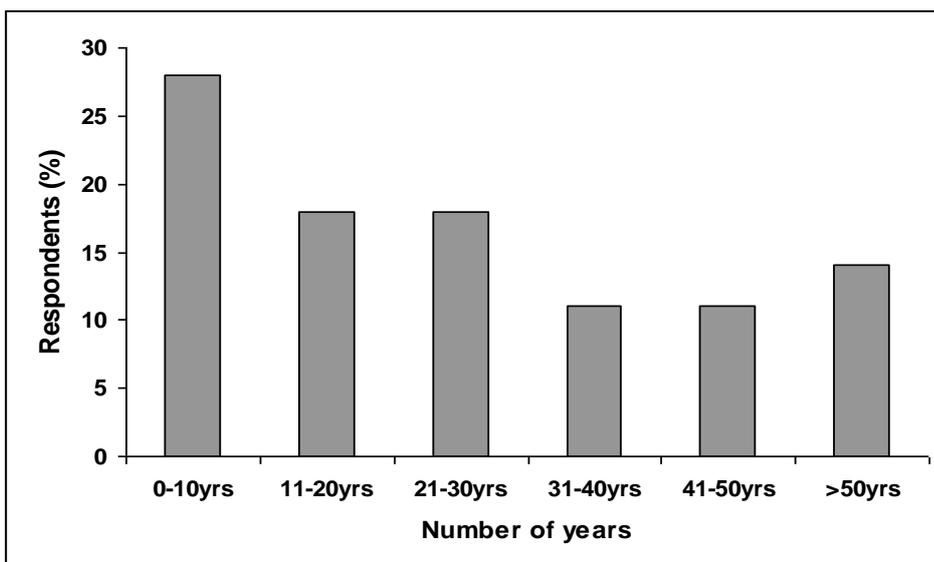


Figure 2 Number of years of respondents in livestock farming

The reasons of respondents for keeping livestock are illustrated on Table 2, where 42% and 30% of farmers kept livestock to earn income and for family support, respectively, and only 3% of them kept livestock for animal traction and household consumption. Similar reasons for keeping livestock by the respondents were also reported by Musemwa *et al.*, (2007) looking at an analysis of cattle marketing channels used by small scale farmers in the Eastern Cape Province, South Africa.

Table 2 Percentage reasons for livestock keeping

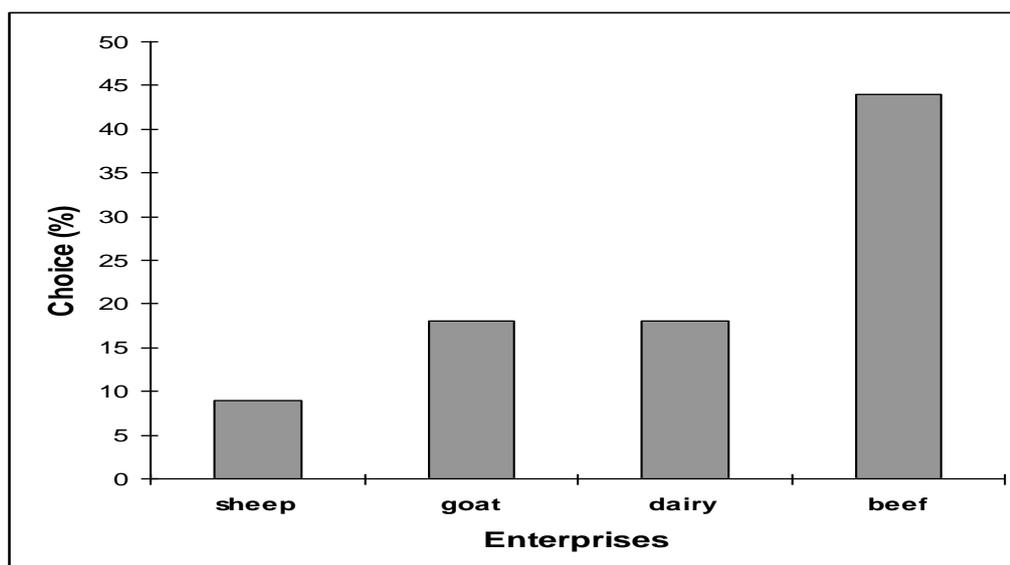
Reasons for keeping livestock	Respondents (%)
Animal traction	3.1
Household consumption	3.1
Cultural use	21.9
Family support	29.7
Earn income	42.2

When farmers were asked on which breeds they would prefer, if provided with breeds of their own choice, they nominated Holstein, Friesland and Jersey, with the higher percentage (40%) compared to Nguni and Bonsmara beef breeds (Table 3). The desire by the respondents to produce their own milk, which they perceived to be expensive, was the reason for their choice of milk producing breeds.

Table 3 Cattle breed of choice and reasons

Breed	Response (%)	Reasons
Bonsmara	16	Fast growth, weight & meat
Nguni	25	Disease resistance, colour patterns and body conformation
Friesland & Jersey	40	Milk production

Contrary to their choice of milk producing breeds, 44% of respondents chose beef production as their choice of enterprise (see Figure 3). This could have been due to lack of explanation by the interviewer or understanding by the respondents on what an enterprise is.

**Figure 3** Choice of enterprise

Few cattle were reportedly disposed of (culled) during the period of 2006-2007, either by slaughtering or selling (Table 4). Using the formula described in the introduction section, the low off-take of 8% of livestock from this community was comparable with the study by Scholtz & Bester (2010), which was comparing the dualistic cattle sectors in South Africa and quantifying the off-take from the different sectors.

Table 4 Disposed cattle during 2006 - 2007

Disposal of livestock	Respondent's (%)	Variables
Animal sales	58	One animal
	21	Two animals
Market	41	Locally
	17	Speculators
	8	Auction
Slaughter	53	One animal
	37	Two animals

The village herd distribution and village herd structure are illustrated in Table 5 and Figure 4. There were no tested reasons associated with the variations that were obtained. The herd size of the farmers varied between a minimum of one cattle to a maximum of 21 cattle with a mean of 10 heads of cattle per households. This suggests that the bulk of the respondents had only small numbers of cattle.

Table 5 The number of cattle owned by the number of respondents

Number of Households	Number of cattle per household
8	1
8	2
8	3
1	5
10	6
8	7
3	8
8	9
3	10
3	11
3	14
3	15
3	16
1	17
3	18
1	21

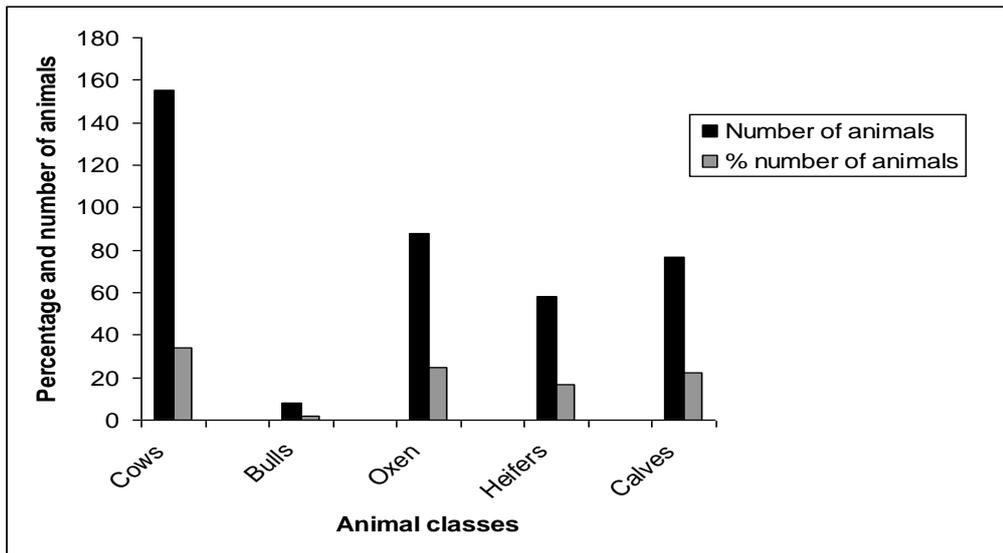


Figure 4 Village herd structure

Diseases and lack of livestock agricultural knowledge were the challenges reported to be hindering the development of communal livestock farming by most farmers (Figure 5). There were less farmers that reported lack of infrastructure and financial support as constraints for which these are the major challenges that the commercial livestock production are experiencing.

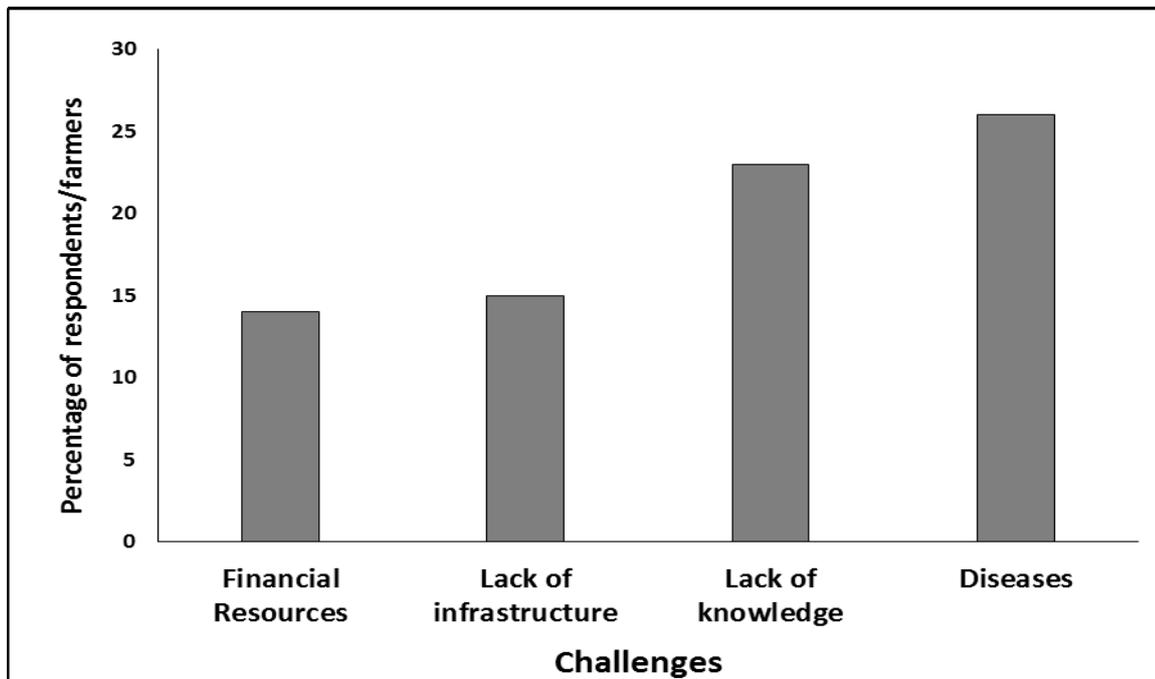


Figure 5: Challenges facing farmers

These challenges were similar to those reported on studies conducted on this sector and or similar sectors by various authors in South Africa (MacLeod *et al.*, 2008, Hangara, 2011; Sikhweni & Hassan., 2013; Mpandeli & Maponya., 2014; Khapayi & Celliers., 2015).

Conclusion

Within the context of this study, communal livestock farming is largely headed by males, though many are old. Livestock keeping in communal areas need necessary institutional arrangements in order to be considered a farming venture. Of the challenges faced by communal farmers, lack of knowledge, livestock off take, diseases and proper training on best farming practices are still key constraints. This study highlights the importance of improving extension work with a focus to develop communal livestock farming.

Acknowledgements

The authors are grateful to the farmers of the Majali community for their participation, support and assistance in carrying out this study.

References

- Bembridge, T.J., 1989. Aspects of smallstock production in Ciskei. *S. Afr. J. Anim. Sci.* 19, 1-3.
- Fitzhugh, H.A., Ehui, S.K. & Lahlou-Kasai, A., 1992. Research strategies for development of animal agriculture. In: *Sustainable Animal Production*. 71. 3rd issue. FAO. Rome.
- Goqwana, W.M., Machingura, C., Mdlulwa, Z., Mkhari, R., Mmolaeng, O. & Selomane, A.O., 2008. A facilitated process towards finding options for improved livestock production in the communal areas of Sterkspruit in the Eastern Cape Province, South Africa. *Afr. J. R & F. Sci.* 25(2): 63-69.
- Hangara, G.B., 2011. Challenges facing communal farmers to improve cattle production and marketing systems in Namibia: Case study from Omaheke Region. Thesis, University of Bloemfontein. South Africa
- Khapayi, M. & Celliers, P.R., 2015. Issues and constraints for emerging farmers in the Eastern Cape Province, South Africa. *Afr. J. Agric. Res.* 10(41): 3860-3869.
- MacLeod, N.D., McDonald, C.K. & van Oudtshoorn, F.P., 2008. Challenges for emerging livestock farmers in Limpopo province, South Africa. *Afr. J. R & F. Sci.* 25(2): 71-77.
- Meissner, H.H., Scholtz, M.M. & Engelbrecht, F.A., 2013. Sustainability of the South African livestock sector towards 2050 Part 2: Challenges, changes and required implementations. *S. Afr. J. Anim. Sci.* 43(3), 298-319.
- Moyo, B., Dube, S., Lesoli, M. & Masika, P.J., 2008. Communal area grazing strategies: institutions and traditional practices. *Afr. J. R & F. Sci.* 25(2): 47-54.
- Mpandeli, S. & Maponya, P., 2014. Constraints and challenges facing the small scale farmers in Limpopo Province, South Africa. *J. Agri. Sci.* 6(4): 135-143.
- Mthi, S., Nyangiwe, N., Menhas, R., Mushunje, A. & Ighodaro., 2018. Women's participation in livestock activities under small-scale farming system in the Eastern Cape Province, South Africa. *Appl. Anim. Husb. Rur Dev.* 11: 14-21.
- Mucina, L. & Rutherford, M.C., 2006. The vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South Africa National Biodiversity Institute, Pretoria.
- Musemwa, L., Chagwiza, C., Sikuka, W., Fraser, G., Chimonyo, M. & Mzileni, N., 2007. Analysis of cattle marketing channels used by small scale farmers in the Eastern Cape Province, South Africa. *LRRD, Paper No19* (9).
- Musemwa, L., Mushunje, A., Chimonyo, M. & Mapiye, C., 2010. Low Cattle Market off-take rates in communal production systems of South Africa: Causes and Mitigation Strategies. *J. Sust. Dev. A.* 12(5), 209-225.
- National Livestock Statistics (NLS), 2006. National Department of Agriculture, Pretoria, South Africa.
- National Livestock Statistics (NLS), 2017. National Department of Agriculture, Pretoria, South Africa.
- Nyangiwe, N., Harrison, A. & Horak, I.G., 2013. Displacement of *Rhipicephalus decoloratus* by *Rhipicephalus microplus* (Acari: Ixodidae) in the Eastern Cape Province, South Africa. *Exp. Appl. Acarol.* 61: 371.
- Scholtz, M.M. & Bester, J., 2010. Off-take and production statistics in the different South African cattle sectors: Results of a structured survey. *Appl. Anim. Husb. Rural Develop.* 3(1): 19-23.
- Sikhwani, N.P. & Hassan, R., 2013. Opportunities and challenges facing small-scale cattle farmers living adjacent to Kruger National Park, Limpopo Province. *JETEMS.* 5(1):38-43.
- Uddin, M.N., Uddin, M.B., Al Mamun, M., Hassan, M.M. & Khan, M.M.H., 2012. Small scale dairy farming for livelihoods of rural farmers: Constraint and prospect in Bangladesh. *J. Anim. Sci. Adv.* 2(6): 543-550.