Which ruminant livestock to farm with in communal rangelands? Affordability, profitability and sustainability of communal ruminant livestock farming in the Eastern Cape, South Africa: A policy directed review

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Introduction:

With increasing scarcity of the already degraded rangelands, invasive alien species, frequent draughts and competition for land, farming rural household will have to make an economically sustainable choice on which ruminant livestock to farm with in the near future.

Inspired by Vetter's (2013) thought provoking debate, this study investigates the prospects of a likely ruminant livestock species, farming rural households could possible choose.

To gain insight in this hypothesis, mainly small ruminants— sheep, goats and large ruminants—cattle are compared.

Method:

Traditional and snowball literature review approaches, adapted from Fielke et al. (2020), are adopted to guide the study.

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- This review is based on published scientific papers in accredited journals, government reports on policies and statistics in the Eastern Cape (EC) province of South Africa.

- The EC is chosen because it holds one of the highest national livestock herds in South Africa.

- **Results and discussion**:

- The review found that degradation of communal rangelands cuts across many parts of the former homelands in the Eastern Cape.
- As a result, communal farmers manage to keep more stock by supplementary feeding, which implies an increment in the production cost (Vetter, 2003).

- This was found to link with the emerging localised literature on declining livestock numbers on communal land particularly cattle as they are highly affected by shortage of grazing compared to small ruminants due to feed requirements and grazing behaviour (USDA 2015).

- Cattle off-take has been reported to be very low (Scholtz et al. 2008), while small ruminants off-takes tends to be slightly higher (Bembridge & Tapson 1993).
- Further, figures from Cape Wool SA shows that wool sales from the EC has seen tremendous growth and this could be due to improved profitability due to demand from China.

Results and discussion:

- Climate change forecasts project a decline in rainfall and increase in temperature accompanied by more intensive and more frequent droughts.

- The share of the communal grazing area seems to be further shrinking as some of the grazing land is used for residential plots.
- The above factors reduces grazing capacity of communal rangelands, which is further reduced by invasion of alien invasive plants (Yapi et al. 2018).
- Moreover, the rate of land redistribution, which is expected to ease pressure of communal rangelands, is slow (Hall & Cousins, 2013).

Conclusion:

- Based on the discussion above, the key points of concluding remarks that will shape households decision about the choice of ruminant livestock are presented in the table below— it seems that small ruminants are likely to be the most profitable, affordable and sustainable in communal lands.

- This state-of-the-art have implications for rural development policies, such as land redistribution, smallholder commercialisation, the National Red Meat Development Programme and the Animal and Veld Management Programme.

Conclusion

Ruminant livestock	Required start-up capital	Management And handling	Feed requirements	Performance in drought	Fertility	Off-take	Ave. selling price per mature animal
Cattle	High	Fair	Bulk grazers require much feed per unit	Severely affected	Poorer than that of small ruminants and have longer gestation period	Lower than that of small ruminants	R9 000
Sheep	Affordable	Relatively easy even for women	Selective grazers, require moderate feed	Cope better as they feed on short grass	Moderate and have shorter gestation period	Moderate but higher than cattle	R1 500
Goat	Affordable	Relatively easy even for women	Browsers, require moderate feed	Cope better as they can also browse	Moderate and have shorter gestation period	Moderate but higher than cattle	R1 600

Hall, R. and B. Cousins. 2013. "Livestock and the rangeland common in South Africa's land and agrarian reform". African Journal of Range & Forage Science, 30 (1-2):11-15.

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[1] These prices are based on a survey of commercial-oriented smallholders by the author. Households mostly sell non-breeding stock mainly castrates.