

# Goat production as a growing livestock system in Botswana

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Cooke, A.S., Machekano, H., Ventura-Cordero, J. et al.

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## SUMMARY

Goat production is growing in Botswana. It consists of communal forage grazing during the day and protective enclosure using different types of fencing during the night. It has become the main source of economic income for many of its inhabitants. In addition, goat production has important environmental benefits. Farming goats is better for climate change, as they produce less greenhouse gases than other ruminants and play a major role in vegetation management. Moreover, the type of system is mostly extensive, meaning animals roam freely over large areas.

Despite the fact that goat production has traditionally been a smallholder livestock system in Botswana, in recent years goat farmers from Botswana had entered into the market. This new type of system enables them to earn more money and improve their quality of life. Nevertheless, like in any other system that goes into the market, animal welfare becomes essential, not just for itself, but also to increase production. One of the main welfare problems of goats in Botswana is that they are fed with natural pastures, which suffer seasonal fluctuations.

In order to solve this issue, the introduction of adequate supplementation has been found crucial to improve goats' health and welfare, as well as reach a higher level of food security because of the increase of animal products and resilience. If implemented, it would also lead to even more economic income for farmers and better life standards through a sustainable livestock production system.

## Case study impacts

- Extensive goat production systems help combat climate change by reducing greenhouse gas emissions compared with other livestock systems and by contributing to vegetation management.
- Adding feed supplementation to goats' usual diet in Botswana can improve both animal welfare and food security.



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## One Welfare Pillars

### ANIMAL WELFARE



Relying only on natural pastures limits their nutrition and endangers their welfare. Appropriate feed supplementation can reduce this risk and improve goat health and welfare.

### HUMAN WELLBEING



Improving goats' welfare enhances their growth and resilience, increasing productivity. Higher production leads to greater market sales and increased income for families in Botswana.

### ENVIRONMENT



#### Physical

- Reduction of greenhouse gas emissions and improved vegetation management.
- Higher income enables greater investment in farm infrastructure, such as improved night shelters.

#### Social environment

- Improvement of farmers' quality of life.

## Multidisciplinary relevant areas

Veterinary medicine, nutrition, food security, environmental sciences, social sciences, animal welfare.

## References / Source

- Cooke, A.S., Machekano, H., Ventura-Cordero, J. et al. Opportunities to improve goat production and food security in Botswana through forage nutrition and the use of supplemental feeds. *Food Sec.* **16**, 607–622 (2024). <https://doi.org/10.1007/s12571-024-01452-1>
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