

EDITORIAL

Does Botswana need a Society for Animal Scientists?#**Madibela, O. R. (Scientific Editor)**¹Department of Animal Science & Production, Botswana College of Agriculture, Private Bag 0027, Gaborone, Botswana.*Corresponding author. E-mail: omadibela@bca.bw Tel: +267 3650225# Some excerpts of this editorial were presented at 3rd Animal Agriculture Conference of Animal Science & Production Department held at CICE, Botswana College of Agriculture, 25 to 27th July 2011, Gaborone, Botswana

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Botswana's agriculture contributes about 2.0% to GDP and involves about 130 800 traditional farmers (Statistics Botswana 2012). Of these, animal agriculture contributes almost 100% of the income generated by agriculture. In a study by Thirtle *et al.* (2000) it appears that return to investment in arable research was negative but positive for livestock. Interestingly Barnes *et al.* (2008) found high rate of return for small traditional production system (35 cattle, 4 goats) but high national income per unit land for cattle post system while the commercial sector registered negative economic values. Thus, livestock farming has the potential to help create wealth, improve farmers' livelihoods and reduce poverty especially for rural farmers. Animal products are excellent sources of high quality protein; help improve the quality of life and food security. Animal agriculture in Botswana and in the region is challenged by presence of diseases and parasites, drought and shortage of feeds and lack of markets. Already foot and mouth disease has made some farmers poor due to the fact their cattle were killed during the eradication control policy employed by the Ministry of Agriculture, leaving farmers unemployed. This shows the importance of livestock in the livelihoods of communities. Not only would disease pose a risk to marketing of beef to the EU, but lack hygiene and sanitation at farms may lead to spread of zoonotic diseases to humans. The current episodic occurrences of diarrhea in children in Botswana should be investigated to ascertain that it is not linked to farming practices. A study by Sharma and Busang on page 100-105 of this issue touched on this aspect and shows that proper husbandry practices reduce prevalence of *Cryptosporidium* species at farm level. Another challenge to animal agriculture is the advent of climate change. How will animal response to the predicted increased variability to climate? It is likely that climate change will have an impact on the physiology of animals, their habitat and feed resource of animals as well as influencing the vectors of disease that inflict livestock. In areas where temperature is predicted to increase, challenge of heat stress is apparent and this will definitely affect feed intake, water intake and metabolic response by

livestock. Based on the understanding of physiological responses of livestock to current environmental stressors, it could be assumed that livestock accustomed to tropical and sub-tropical harsh conditions (local breeds) would be better able to tolerate climate change than introduced livestock from the northern hemisphere. However, it is important that research elucidated on the anticipated response of local breeds to increase environmental stressors. This has not been adequately done for indigenous breeds. The work by Kamau on page 113-117 of this issue of BOJAAS attempts to give insights to water conservation by local Tswana goats. There is a need for more of this type of research. Diseases and parasites will be affected by climate change. Though stages of some parasites are free-living and would be exposed to increased temperature and susceptible to desiccation it is also likely that increase temperature may favour proliferation of some diseases and parasites. Climate change may actually alter rainfall patterns and areas traditionally without disease or parasites may now experience them. To have policies and remedial solutions ready, policy-makers should have information about anticipated epidemiology of disease and their vectors. Such research is tackled by a paper by Batisani and colleagues on page 82-99 of this issue of BOJAAS. The author uses climatic data and reported observation of heartwater to predict future trends and ranges of the disease. On the other hand, livestock has a direct impact on the environment through land degradation and emission of greenhouse gases.

All the positive attributes of livestock farming and the challenges alluded above can be harnessed and/or tackled through research and partaking in the stewardship of the environment. Typically such research is carried out by individuals with specialized qualifications in different facets of animal sciences. The need for these men and women to get recognition, to promote their profession and pass information about their vocation can be achieved through a concerted networking or an association. The objectives for

such a society for animal scientists in Botswana would include publicizing animal science as a profession, publicizing research; organizing conferences, workshops and seminars, mentoring students of animal science and to positively influence policy development at national and regional level. The society would also help members network with their peers nationally, internationally and with

sister societies. This is imperative for the survival of the profession and its image in Botswana.

References

- Barnes, J. I., Cannon, J. and Macgregor, J. (2008)** Livestock production economics on communal land in Botswana. Effects of tenure, scale and subsidies. *Development Southern Africa* 25:327-345
- Statistics Botswana (2012)** 2007 and 2008 Annual Agricultural Survey Report. Department of Printing and Publishing Services. Gaborone, Botswana.
- Thirtle, C. G., Lusigi, A. M., Piesse, J. and Suhariyanto, K. (2000)** Agricultural productivity and returns to public investment in agricultural research and extension in Botswana, 1979-1966. A report on contract by Oxford Policy Management for the Department for Internal Development, UK,