

Title: Measurement of competitiveness in smallholder livestock systems and emerging policy advocacy: an application to Botswana

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ABSTRACT

Livestock farming forms an important component of Botswana's agriculture and contributes a larger share to agricultural output. Within the livestock sector the dominant subsector is beef, which is a major contributor to the livestock sector's output and one of the country's major foreign exchange earner. In addition, the beef sector is a sector in which many indigenous Batswana have participated in, hence important for wealth creation and poverty eradication especially in the rural areas where poverty is more pronounced. As a result of this, livestock policy has tended to favor the beef sector at the expense of other subsectors such as small stock. In recent years the Botswana livestock industry has faced numerous challenges, especially the beef sector. These include outbreaks of drought and diseases such as foot and mouth, delisting of the country from exporting its beef to the European Union (EU) because of the dysfunctional livestock trace back system (LITS). All these challenges impact negatively on the competitiveness of the livestock sector, especially the smallholder livestock farming.

The main objective of this study is to measure competitiveness of the Botswana livestock sector, focusing on beef and small stock subsectors. The choice of the beef subsector is due to its importance in terms of its contribution to agricultural GDP and foreign exchange earning capability, while the small stock subsector was chosen for its role in poverty eradication since ownership of small stock is less skewed than that of cattle. The study uses profitability as proxy measure of competitiveness at farm level. The choice of profitability as an indicator of competitiveness is influenced by the fact that it allows us to identify factors that influence profitability and hence competitiveness at farm level.

Several studies have attempted to measure competitiveness of the Botswana's livestock sector both at sector and household levels. Most of the sectoral level studies (BIDPA, 2006; Jefferis, K., 2007; ODI, 2007), which were mainly on beef, only managed to investigate the performance of the sector under different price regimes and trade agreements and failed to explore further how farmers adjust their farm budgets to cope with any changes at macro level. Similarly household level studies (Panin and Mahabile, 1995; BIDPA, 2006 and FAO, 2013) have only relied on limited household data and used mainly budgetary analysis.

The present study intends to fill this gap by using a more representative sample of 600 livestock producers in which data was collected through a household survey. This household survey collected detailed information on costs and returns of livestock production encompassing different farm sizes across selected districts of Botswana. The information collected enabled the researchers identify determinants of profitability and hence competitiveness of different farm sizes in different districts, hence filling the gap between past macro and household level studies. The identification of the determinants of profitability will assist in determining policy options needed to enhance profitability of livestock production and hence competitiveness at farm level.

The preliminary results of the study indicate that farmers incur more cost on feeds, fuel and maintenance and variable costs' pattern across different herd sizes suggests some diseconomies of scale. The results further indicate that gross margin generally varies positively with herd size. In addition, small stocks are kept by households who are usually headed by women and are poor. As a result of this small stock contribute a significant amount towards household income and hence poverty reduction.

Based on these results the following policy recommendations are put forward: unprofitable farmers who keep small herds should be encouraged to increase their herd sizes or work as groups as a measure to improve their profitability in beef production. At the national level, there is need to switch from the predominately ox production system, to a tolly system which will ensure that more breeding animals are kept and hence more beef production using the same amount of grazing land. Concerted efforts should be made to train and disseminate production and marketing information so that smallholders could exploit the potential benefits of livestock by allocating more resources to

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their improvement. In order to reduce feed costs, emphasis should be placed on improved grazing management, which in turn requires improved fencing and associated land management, and training to provide market orientation. Encouraging farmers to form farmers' groups and/or cooperatives will reduce transaction costs faced in both input and output markets. There is a need to revamp the veterinary services to avoid unnecessary delays in the issuance of sales permits, which further add to the already high transaction costs faced by farmers and discourage their participation in livestock markets. This will surely increase off-take rates and increase beef production and export earnings. Policies that promote small stock production should be put in place as a way of reducing poverty, as small stock are mainly kept by female headed households who are poor. Promotion of small stock production, especially goats will help in preventing bush encroachment when they are kept with cattle as they are browsers and help in curbing range degradation. The overall value chain strategy should be to promote competitiveness as this will ensure a sustainable livestock sector.

Keywords: Competitiveness, livestock, profitability, policy, smallholder

References:

Banse, M. Gordon, M. Hartell, J. Hughes, G. Kockler, J. Mollman, T. and Munch, W. 1999. The evolution of competitiveness in Hungarian Agriculture: from transition to accession. Paper presented on the IXth EAAE Congress in Warsaw, August, 24-28, 1999.

BIDPA (2006) Final Report on the Viability and Long-term Development Strategy for the Livestock (Beef) sub-sector in Botswana, BIDPA, Gaborone.

Delgado, C.L, Narrod, C.A and Tionoco, M.M. 2008. Implications of the scaling-up of Livestock production in a group of fast-growing developing countries. In Vinod Ahunja, Ed. Livestock and Livelihoods: challenges and opportunities for Asia and in the emerging market environment. Pro-poor Livestock Policy Facility.

Emam, A.A. and Salih, M.H. 2011. Measuring competitiveness of Sudanese Sheep Exports. American Journal of Experimental Agriculture 1(3): 69-78.

FAO. 2013. Botswana Agrifood Value Chain Project: Beef Value Chain Study. FAO and Ministry of Agriculture, Botswana.

Jefferis, K. (2007): The Impact of Cattle/beef prices on incomes and poverty in Botswana: Report submitted to USAID / Southern Africa, Gaborone, Botswana.

Latruffe, L. 2010. Competitiveness, Productivity and Efficiency in Agricultural and Agri-Food Sectors. OECD Food, Agriculture and Fisheries Papers, No. 30, OECD Publishing. <http://dx.doi.org/10.1787/5km91nkdt6d6-en>.

ODI (2007) Analysis of the Economic and Social Effects of Botswana's Loss of Preferential Market Access for Beef Exports to the European Union Reasons for emergence of game ranching.

Panin, A. and Mahabile, M. 1997. Profitability and household income contribution of small ruminant production in Botswana. Small Ruminant Research. 25(1). pp.9-15.

Staal, S.J. 2002. The competitiveness of smallholder dairy production: Evidence from Sub-Sahara Africa, Asia and Latin America. In Rangnekar, D. And Thorpe, W. (Eds) 2002. Smallholder dairy production and marketing opportunities and constraints. Proceedings of a South-South Workshop held at NDDB, Anad, India, 13-16 March 2001. NDDB (National Dairy Development Board), Anad, India and ILRI (International Livestock Research Institute) Nairobi, Kenya. 538 pp.

Steinfeld and Gao, Q. 2008. The competitiveness of Asian Livestock Sectors. In Vinod Ahunja, Ed. Livestock and Livelihoods: challenges and opportunities for Asia and in the emerging market environment. Pro-poor Livestock Policy Facility.