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PERFORMANCE AND MARKETING OPTIONS FOR RED MEAT IN THE FORMAL AND INFORMAL VALUE CHAINS IN THE FREE STATE PROVINCE

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Abstract

Marketing of agricultural products and market access has been a well researched topic during recent years. More so in the South African agricultural sector due to the dualistic nature of the South African agricultural sector and the economy in general. There is a distinct difference in the formal and informal agricultural sectors with both facing a number of challenges; there are a number of challenges facing the informal sector specifically related to market access. The aim of this paper is to compare the performance of the formal and informal sectors and to identify the different marketing channels utilised by these sectors, as well as the challenges in the informal sector related to market access.

Primary information was gathered by means of structured questionnaires in both the formal and informal red meat sub-sectors in the Free State province of South Africa. Analysis showed that the performance of the informal sector, measured as calving rate and off-take rate is well below that of the formal sector. Although various well established marketing channels exist in the province, producers in the informal sector rarely make use of these channels mainly due to low levels of production and inadequate quality; this is mainly due to lacking herd management and breeding practices brought about by insufficient infrastructure within the informal or communal production systems.

This paper concludes that there is still ample scope to increase red meat production within the informal sector by improving calving- and off-take rates. By increasing the calving rate by 35%; beef production could be increased by 325%. South Africa can make a positive contribution towards global red meat production given the predicted increases in global food demand. The main constraints that should be addressed through policy intervention is the availability of basic infrastructure requirements necessary for proper herd management and breeding practices as well as access to credit; which is limited in the informal sector due to the lack of land ownership and subsequently security.

Keywords: marketing channels, performance, calving rate, off-take rate

1. Introduction

Given the natural resource base of South Africa, livestock production is one of the most important farming practices in the country. Of the approximately 80% of the land surface being utilised for agriculture, almost 70% is suitable for animal husbandry. The South African red meat sector contributed 15.4% to the total gross value of agricultural production during the 2011/2012 season with cattle being the main contributor at 10.7% while sheep contributed 2.5% during the same period (DAFF 2013). The long-term average contribution of the red meat industry to the total gross value of agriculture production (from 2000/2001 to 2011/2012) accounted for 14.2% and that of beef 9.7% and sheep 2.4% during the same period (DAFF 2013).

The South African primary red meat sub-sector is unique due to the dualistic nature of the country's agricultural situation. There is a clear distinction between the commercial (formal) sector

of the industry and the smallholder (largely informal/communal) sector. The informal sector can also further be divided into two sub-sectors namely: the small-scale subsistence producers and the emerging producers. Typically small-scale subsistence producers will keep livestock, which is unique throughout the African continent, for status reasons or as a form of a "bank on hooves" and in some cases as draught power. Animals will mostly be sold in times where producers are cash strapped and are usually only slaughtered for religious or festive reasons. In this sub-sector there is little to no herd management practices in terms of the introduction of new genetic materials, calving seasons and health management practices amongst others; this is mainly due to insufficient infrastructure requirements in the communal farming areas.

The informal sub-sector contributes very little towards the industry in terms of production (measured as calving rate and off-take rate). These animals also follow a unique value chain and seldom enter the formal red meat value chain.

The second non-commercial group, emerging red meat producers differ from the small-scale subsistence producers mainly because of the reason they keep animals. In the emerging sub-sector the producers keep animals for economic gain with the main objective being reproduction in order to sell surpluses into both the informal and the formal market. Management practices are more defined and sophisticated and the calving rate is therefore substantially higher than in the small-scale subsistence sub-sector. This sector is for all intensive purposes the same as the commercial sector.

Informal livestock producers' market access is nevertheless limited by a number of factors. These factors include, amongst others, the poor quality of animals produced; the poor performance of herds in this sector; inconsistent production; poor pasture management and rising animal feed prices increases production costs and deplete margins; little knowledge regarding animal health and disease control as well as limited knowledge with regard to animal improvement in the form of scientific breeding processes; distorting government policies; the lack of proper information and the timeliness thereof and high transaction costs (Coetzee *et al.,* 2005; Spies, 2011).

Coetzee *et al.* (2005), identified five main marketing constraints faced by small scale farmers in South Africa, confirmed by Spies (2011) in the Free State province; these includes the poor condition of the livestock, the lack of marketing information, the unwillingness and inability to adopt livestock identification practices, the lack of infrastructure and poor production and marketing management.

Apart from the aforementioned issues, the red meat industry in South Africa faces several other problems, similar to those experienced by various international meat producers. These include, amongst others, sub optimal growth in consumption figures, import threats, inappropriate policies and regulations, inconsistencies in quality and not adapting fast enough to consumer tastes and preferences.

2. Approach and data used

As a starting point, a random sample was drawn from a list of red meat producers provided by the Free State Red Meat Producers Organisation (FSRPO) as well as a number of farmers' associations and groups throughout the province. A total of 745 producer contact names and numbers were obtained to populate the sample. A Short Message Service (SMS) text message was sent to these producers to inform them about the survey and they were asked to provide assistance if they were contacted for an interview. Producers were then contacted individually to schedule interviews, which took place during February and March 2010, and data collected applicable to the 2009 production season.

There are approximately 7,515 farming units in the Free State province. This does not, however, imply that there is the same number of producers. This is mainly due to the fact that in most cases, farmers own more than one farming unit. Producers registered as members of Free State Agriculture totaled 4,556.

A total of 143 producers were surveyed (i.e. 19% of the producer list compiled). These producers are all commercial livestock producers; there are no details available for informal producers, these farmers were surveyed at dusk when they brought their animal to the pens to overnight; informal producers on communal areas around 21 towns throughout the province were surveyed. There are approximately 2.38 million cattle and 4.98 million sheep in the province, with 4 feedlots with standing capacities exceeding 10,000 animals.

3. Results and discussion

3.1. Herd composition

The herd composition of the formal sector (Figure 1) is as follows; adult females contribute 45 and 44% to the total cattle herd and sheep flock respectively, while young female animals contribute 13% of the cattle herd and 11% in the case of the sheep flock. The total representation of breeding females (younger female animals used for breeding purposes and adults) in the cattle herd is 58 and 55% in the sheep flock. Calves and lambs accounted for 36 and 41% of the total respective herds/flocks.

In the informal cattle sector, adult, and in most cases old unproductive female animals, make out 70% of the herd with only 4% of the herd being younger female animals. The informal sheep flock has 72% old ewes, 11% young ewes and only 10% lambs (sheep farming is not common in the communal farming sector as the losses due to stray animals, particularly dogs, are too high). These herd compositions contributes to the low performance of the informal sector as only a small number of productive animals are included in the herds.

3.2 Performance of the red meat sectors

Calving/lambing rate

Depending on the source (sources vary due to the lack of reliable or accurate information), the national calving rate, defined as the number of calves born per active adult female animal, for the commercial sector ranges from 55 to 65%. Some sources indicate levels as low as 45 and as high as 80% in some cases. Given the abovementioned, it is clear that there is a high level of variance between different sources. Scholtz and Bester (2008) estimated the national commercial calving rate at 61%. However, in this study, the commercial calving rate for the Free State province is calculated at 80%, which is relatively higher than the estimated national average of between 55 and 65%. This above-average calving rate for the Free State province could be attributed to a number of factors, including better management practices, better genetic material and good pasture management. Given the national commercial averages for lambing percentage at 102%, the average lambing percentage for the Free State province is slightly lower at 93%.

National estimations on the calving rates of the informal/communal sector include those by Clark *et al.* (2005) at 40% and according to Madzivhandila et al.. (2007), between 43 and 64%; while Scholtz and Bester (2008) estimated the national calving rate in this sector at 26.9%. For the Free State province, the smallholder calving percentage was calculated at 29.8%, which is

10% below the national average of 40% as estimated by Clark *et al.* (2005). The lambing rate for the smallholder sector of the province is even lower than the calving rate at 13.2% (mainly due to high losses to stray animals). These low levels of productivity can, to a large extent, be attributed to the communal nature of livestock production systems under which the communal farmers operate. Breeding programs, such as selective breeding, and even calving seasons cannot be managed properly due to the lack of basic infrastructure, such as fences, in these communal areas.

In terms of the productivity of the livestock sector, not only in the Free State province but for South Africa as a whole, these low productivity figures for the informal sector present a huge challenge, as approximately 35 to 40% of the total herd is owned by informal producers. Assuming that this ratio is applicable to the Free State province the number of cattle in the province amounts to 833 thousand (Table 1). The current situation implies a 50% male/female ratio in the informal herd, if 40% of these are productive at the current calving rate of 29.8%, 49,647 calves would be produced totaling 12.4 thousand tonnes carcass weight equivalent (c.w.e). However, if this could be improved to 65% (the estimated national average) by adapting the herd composition to at least 60% female animals, by selecting genetic material so that the productive female animals average 65%; 211,166 calves could be produced or 52.8 thousand tonnes (c.w.e). Thus, with the correct management practices in terms of herd compositionv and by selecting the best animals for breeding purposes a 35 percentage point increase in the calving rate can increase production volumes by 325%.

Table 1. Current and possible production scenarios for the informal cattle sector.

Item	Current	Possible
Total number of animals (head)	833,000	833,000
Female animals in herd (%)	50	60
Female animals (head)	416,500	499,800
Breeding cows (%)	40	65
Calving rate (%)	29.8	65
Calves produced (head)	49,647	211,166
Weaner price (R/Kg)	17.2	17.2
Carcass weight at slaughter (kg)	250	250
Meat produced (tonnes)	12,412	52,791
Total off-take at 200 kg (R)	170,487,111	725,142,327
Difference from current (R Total)		554,655,216

Off-take rate[1]

Research done on the South African non-commercial livestock sectors showed that these sectors have not yet reached their full potential (Paterson, 1997; Ainslie *et.al.,* 2002; Clark *et al.,* 2005; Montshwe, 2006). The off-take rate for non-commercial sector, which includes the emerging and communal/smallholder sectors, is estimated at between 7.5 and 10%, which is significantly less than the estimated 25% of the commercial sector (Montshwe, 2006; RMRDT, 2008). Scholtz and Bester (2008) estimated the South African emerging and communal/smallholder beef off-take rates at 25 and 6% respectively. This study estimates the off-take rate for the smallholder beef sector in the Free State province at 11.8%; which is much higher than the national average of 6% estimated by Scholtz and Bester (2008) but significantly lower that the commercial beef off-take rate for the province (33%).

In terms of the sheep off-take rate, this study estimates the Free State province off-take rate for the communal sheep sector at 2.3%, which is very low considering the estimated off-take rate of 35% for the commercial sector in the province.

[1] Also known as the marketing rate i.e the percentage of animals marketed of total herd size.

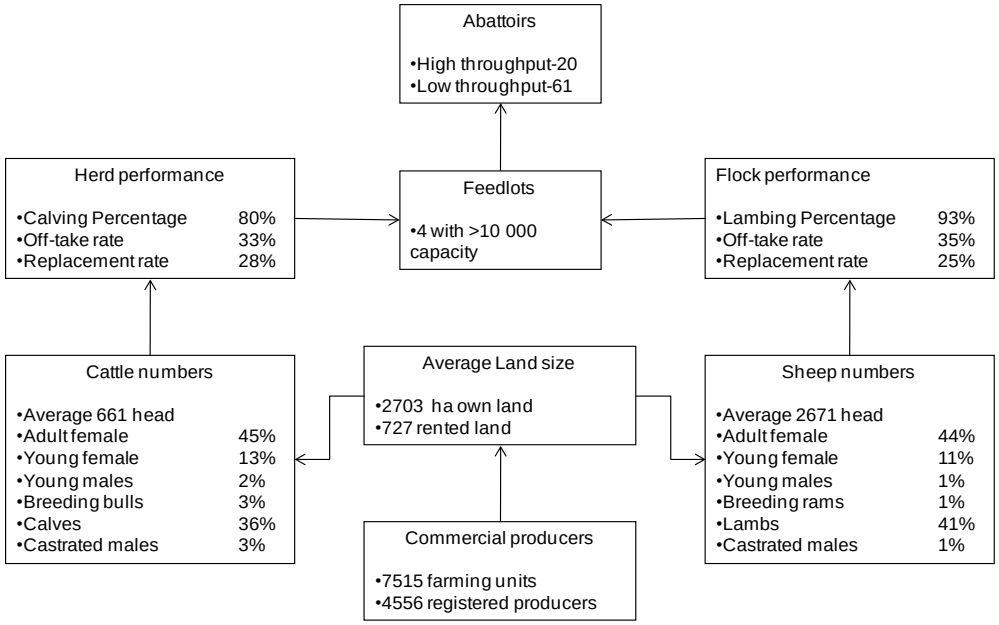

Figure 1. Summary of the performance of the commercial red

3.3. Marketing channels utilised by producers

Figure 2 shows the existing marketing channels utilised by the commercial sector, these channels are not limited to commercial producers, but also accessible to the informal sector. It is

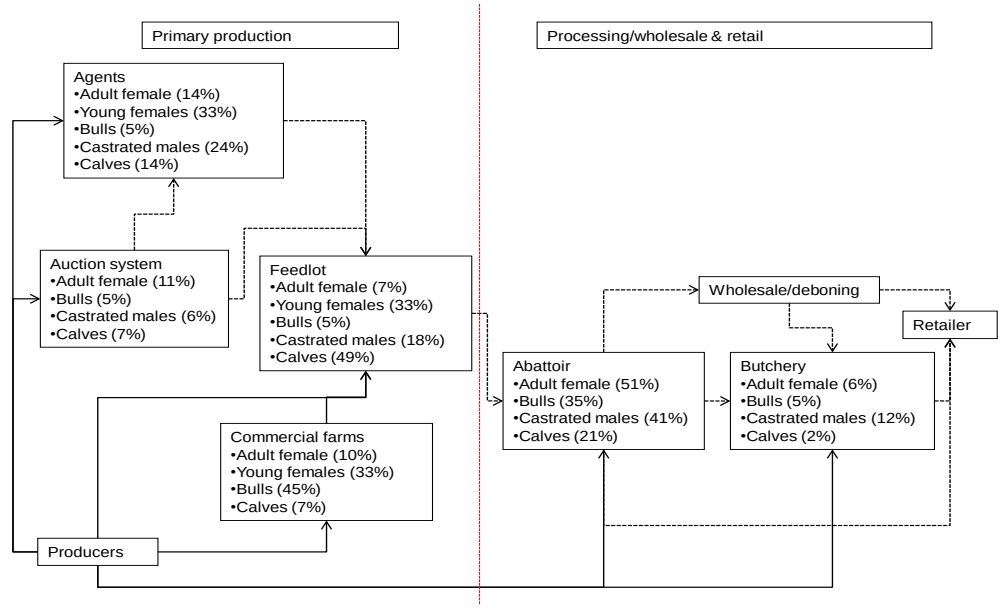

Figure 2. Marketing channels utilised by commercial producers

evident that for slaughter animals the majority of producers market directly to the abattoir, while younger animals and calves are mainly marketed directly to the feedlot. Interesting to note is that young female animals are marketed equally between commercial farms (for breeding purposes), feedlots (for slaughtering) and to agents (either for the breeding our slaughter markets). The auction system is used to a lesser extent, compared to a decade ago when this channel was the main marketing point.

4. Conclusion

It is clear from the analysis that there is ample scope to improve the performance of the informal red meat sector. With best practices in terms of production it is possible to increase the cattle production in this sector by 325%. There are however a number of challenges in this regard. One of the main challenges is the lack of infrastructure in the informal/communal farming sector, that inhibits proper herd and pasture management. Another constraint is the inability of the informal producer to access credit; mainly due to the fact that they do not have ownership of the land they produce on. This is also a disincentive to improve and maintain infrastructure on communal land.

The marketing channels do exist, as can be seen from the markets that the formal sector utilises, the challenge is to link the informal producers to these markets. The only way this will be possible is for the informal producers to produce a product that reflect the requirements of the formal sector in terms of product quality and constancy. Therefore there is an urgent need for education, training and guidance with regard to animal production in this sector. This gap could be filled by training extension officers to assist informal producers.

5. Recommendations

Efforts to improve the infrastructure in the informal/communal production areas are crucial. This should include, but should not be limited to; proper fencing and camps to provide for herd-, pasture- and breeding management; watering points; animal handling facilities to provide health care as well as collection points for animals etc. Improvements in infrastructure will not be viable without an incentive to maintain the infrastructure.

New models should be developed to provide security for credit access based on production. Analytical tools and frameworks that provide guidance into the functioning of the informal sector are important; to understand whether such models will have positive or negative impacts on producers, and to what extent the poor can benefit from these models should be analysed. Training of extension officers to guide informal producers in terms of animal production practices should be prioritized to increase productivity in this sector. It is also recommended that government should be assisted in terms of policy reform towards effective informal agricultural systems.

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