

PERFORMANCE AND MARKETING OPTIONS FOR INFORMAL CATTLE PRODUCERS IN THE EASTERN CAPE PROVINCE OF SOUTH AFRICA

Sub theme: Working with global and local markets

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Abstract:

High quality market and value chains for small-scale emerging farmers in South Africa has been under discussion since the liberalisation and deregulation of the South African marketing boards. Local producers are now competing in a dynamic global market environment without fixed prices and very little input and output price support. The red meat industry did not escape these challenges.

The agricultural sector in South Africa is known for its dualistic nature. This phenomenon is also prevalent in the red meat sector where two distinctive value chains are present, a formal value chain where mostly the commercial producers participate and an informal value chain where a large number of informal producers compete.

These two value chains have evolved differently into two unique production and marketing systems.

One of the largest shortcomings in both systems, formal and informal, is the lack of accurate and timely information and statistics.

This study contributes to estimate the status quo of the performance and marketing options in the informal red meat sector of the Eastern Cape Province in South Africa.

In the past the informal sector was criticised with regard to the low economic contribution to the industry as a whole.

This study found performance levels in the Eastern Cape Province on par with previous estimations in other areas with off-take rates close to 16 percent and calving rates in the region of 32 percent.

However, the research proved that farmers in the informal red meat sector mainly utilise formal value chains with main constraints being information related, more specific product requirement information.

Keywords: *Marketing channels, performance, calving rate, off-take rate.*

1. Introduction

South Africa produced just over 1 million tons of beef in the 2014/2015 season (DAFF, 2017), making in the twelfth largest global producer just after Canada. An additional, two percent of total domestic consumption is imported which results in 19kg of beef available per South African. Hence, domestic supply almost suffices local consumptions. This supply of beef is derived from a commercial herd of about 13.7 million cattle (DAFF, 2017). The beef sector occupies an important position in the country, using a significant amount of the vastly available grazing land and being the third largest agricultural sub-sector in value terms after poultry and maize production. Apart from this formal economy of the local beef sector, there exists a significant informal sub-sector contributing to local food production. This largely undocumented informal sub-sector holds vast potential for agricultural development endeavours in terms of boosting income for rural poor and improving food security (Mmbengwa, Nengovhela, Ngqangweni, Spies, Baker, Burrow, & Griffith 2017)

There is thus a clear distinction between the commercial (formal) sub-sector of the beef industry and the smallholder (largely informal/communal) -subsector. Spies (2011) stipulates that the informal sector can be divided into two sub-sectors namely: the small-scale subsistence producers and the emerging producers. Typically small-scale subsistence producers will keep livestock breeds, which are unique throughout the African continent, for status reasons or as a form of a “bank on hooves” and in some cases as draught power. The second non-commercial group are the emerging red meat producers. In this 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. Spies (2011) argues that the informal sub-sector contributes very little towards the domestic red meat industry in terms of production as measured by the calving- and off-take rates.

Coetzee, Montshwe, and Jooste (2005), identified five main marketing constraints faced by small-scale cattle farmers in South Africa which were 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 these

constraint, Montshwe (2006) identified lack of training and access to information as the two main drivers for small-scale cattle farmers not participating in mainstream markets.

Efforts to integrate emerging red meat producers in the mainstream formal marketing channels have been plentiful, mostly with limited success (e.g. the Nguni Cattle Development Project and various livestock improvement projects by for instance agribusiness and Conservation South Africa). Furthermore, the establishment of the National Emergent Red Meat Producer's Organisation (NERPO) in 1997 has put some official structure in place which aims to organise parts of the informal sector and improve its participation in the mainstream commercial agribusiness sector. The question whether high-quality beef products for the formal retail sector can be cost-effectively derived from South Africa's small-scale and emerging farmers is the pivotal question in a recently commissioned project by Australian Centre for International Agricultural Research (ACIAR)¹. One of the objectives of this project is to develop, modify and evaluate the value chain and market requirements needed to ensure South African small-scale and emerging cattle farmers better understand customer preferences and receive appropriate rewards from meeting the specifications of these expanded and diversified beef markets and value chains. In order to achieve this objective a first step is to establish a baseline of the current performance of the emerging cattle farmers in terms of operational and marketing dynamics (i.e. herd composition, calving rate, off-take-rate, marketing channels utilised, risks and constraints). This will characterise the current practices in the informal sector and identify the gaps in terms of linking these farmers to mainstream supply chains. The latter will inform adequate interventions for commercialisation of the informal beef sector.

This paper discusses the preliminary results of research conducted in terms of reaching this specific objective of the ACIAR project.

The Eastern Cape Province (EC) is one of the poorest provinces in South Africa with unemployment close to 30 percent and 63 percent of the population living in poverty (StatsSA, 2016). Due to its climatic conditions of droughts and erratic rainfalls, a large proportion of the rural population in the EC are reliant on livestock production for their livelihoods (Musemwa, Chagwiza, Sikuka, Fraser, Chimonyo, & Mzileni, 2007; Musemwa, Mushunje, Chimonyo, Fraser, Mapiye & Muchenje, 2008). Although primary agriculture only contributes 1.5 percent to the province's economy, it provided employment to almost 90 thousand people in 2015 (IHS Global Insight, 2017)

This project (LPS/200/128) is conducted in partnership with the Agricultural Research Council , the Nation Agricultural Marketing Council

2. Approach and data used

As a starting point, a random sample was drawn from a list of informal red meat producers provided by the Department of Rural Development and Land Reform (DRDLR) of the EC. A total of 1 303 producer contact names and numbers were obtained to populate the sample.

During the May 2016, enumerators were trained after which the data capturing process commenced. To date (Feb 2017), 108 producers have been surveyed, this includes 8.3 percent of the producer population and the data collection process is still ongoing. Producers interviewed are all primarily small-scale or emerging cattle producers and approximately 64 percent of their total income is derived from livestock production. Male respondents accounted for 86 percent of the survey, the average age of respondents was 54 years with eight years of schooling on average.

The area surveyed were geographically bound by the abattoir involved in the project it was decided to limit the area to a distance of 250 km from the abattoir, located in Cradock in the EC (see Figure 1). The area surveyed included four municipal districts namely Amathole (34%), Chris Hani (17%), Joe Gqabi (30%) and Sarah Baartman (18%).

The EC hosts approximately 3.25 million cattle in the commercial cattle sector and at 23 percent of the national herd, it is the most important province in terms of cattle numbers in South Africa.



Figure 1: Survey area of 250 km around Cradock (indicated by dot on map)

Source: Authors

3. Results and discussion

The results and discussion in this section are based on the preliminary findings of the survey.

3.1. Herd composition

The herd composition of the informal cattle sector in the EC (Table 1) is as follows; adult females contribute 50 percent to the total cattle herd, while young female animals comprises 17 percent of the herd. The number of breeding bulls per female animal (young and old) are on par with the formal sector where the recommended breeding bull to female animals is 1:30.

Table 1: Herd composition (n=108)

Animal Type	Stock this year	This time last year	Stock this year	This time last year
	Head	Head	%	%
Adult females	35.9	28.1	49.7	54.1
Young females	12.4	8.3	17.1	16.0
Young males	5.8	4.0	8.0	7.8
Breeding bulls	1.5	1.1	2.0	2.2
Calves born in the last 12 months	11.7	7.4	16.3	14.2
Castrated males	5.0	3.4	6.9	6.5
TOTAL	72.2	51.9	100	100

Source: Authors own calculations

3.2 Performance dynamics

Various methods exist to analyse the operational performance dynamics of cattle production. The two most widely used indicators include the calving rate and the off-take rate; the following section will describe these in more detail.

3.2.1 Calving rate

Depending on the source quoted, the national commercial calving rate, defined as the ratio of calves born given the productive female animals, for the commercial sector ranges from 55 percent to 65 percent. Some sources indicate levels as low as 45 percent and as high as 80 percent. Given the abovementioned, it is clear that there is a high level of variance between the different sources which can be attributed to the lack of reliable and accurate statistics. For instance, Scholtz and Bester (2008) estimated the national calving rate for the commercial sub-sector at 61 percent. However, Spies (2011) calculated the calving rate for the commercial sub-sector in the Free State Province of South Africa at 80 percent, which is much higher than what Scholtz and Bester (2008) estimated. 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 (Scholtz & Bester 2008).

This study found an average calving rate of 32 percent for the informal sub-sector in the study area of the EC. National estimations on the calving rates of the informal sub-sector specifically include those by Clark, Timms, Bacusmo, Bond, Espinosa, Gabunada, Madzivhandila, Matjuda, Motiang, Nengovhela, and Toribio, (2005) at 40 percent, Madzivhandila, Groenewald, Griffith, and Fleming, (2007) at between 43 percent and 64 percent; and Scholtz and Bester (2008) at 27 percent. For the Free State Province, the calving percentage for the informal sub-sector was calculated at 30 percent (Spies, 2011). Hence, the calving rate in the informal sub-sector in the study area is almost 10 percent below the national average of 40 percent as estimated by Clark *et al.* (2005) but on par with the other studies.

These low levels of productivity can, to a large extent, be attributed to the communal nature² of livestock production systems under which a significant proportion (37 percent) of the farmers in the informal cattle sector in the study area 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 communal areas.

In terms of the overall productivity of the local beef industry, these low productivity figures in the informal sub-sector present a huge challenge as approximately 35 percent to 40 percent of the total national cattle herd is owned by informal producers.

3.2.2 Off-take rate

The off-take rate is also known as the marketing rate and is defined as the percentage of animals marketed given the total herd size. Previous research done on production in South Africa's informal cattle sub-sector showed that it has not yet reached their full potential (Paterson 1997, Ainslie, Kepe, Ntsebeza, Ntshona, & Turner. 2002, Clark *et al.* 2005, & Montshwe 2006). The off-take rate for the informal sub-sector is estimated at between 8 percent and 10 percent, which is significantly less than the estimated 25 percent of the commercial sub-sector (Montshwe, 2006 and RMRDT, 2008).

² A system where inhabitants of a settlement is allowed to farm on surrounding municipal owned land

This study found the average off-take rate in the informal cattle sub-sector of the four districts of the EC included in the survey at 16 percent. A study conducted by Scholtz and Bester (2008) estimated the South African emerging and communal/smallholder beef off-take rates at 25% and 6% respectively. Spies (2011) estimated 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 than the commercial beef off-take rate for the province (33%). Musemwa *et al.* (2010), estimated the off-take in the Amatole and Chris Hani Districts of the EC at 12 percent and 19 percent respectively. It should be emphasized that the survey in our study was conducted in the 2015/2016 production season, one of the most drought stricken seasons in three decades. Aforementioned could have led to a higher than normal off-take rates, it is however still within the range found by Musemwa *et al.* (2010), during the 2007 production season.

3.3 Marketing channels utilised by cattle producers.

The type of animal marketed gives an idea of what is happening within the informal sub-sector. The replacement rate of female animals (the rate at which older female animals are replaced/slaughtered) in the informal sub-sector is eight percent compared to approximately 25 percent to 30 percent in the commercial sector. Only 20% of the calves in each production season are marketed compared to 70 percent normally in the commercial sector.

Figure 2 shows the existing eight marketing channels utilised by the surveyed cattle producers in the informal sector in the EC to sell their cattle. The percentages reflect the proportion of cattle types sold per channel. The majority of the animals are marketed through the formal auction system. Castrated males (29%) and calves (57%) are mainly marketed through the auction system to the abattoir and feedlot markets respectively. Although Musemwa *et al.* (2010), also found a large number of animals are marketed through livestock auctions (53 percent of animals in the Chris Hani and 16 percent in the Amatole Districts), they did not distinguish between the types of animal marketed.

This study found furthermore that 64 percent of breeding bulls, 61 percent of young female animals and 44 percent of adult female animals are marketed through the formal auction system. It is evident from the respondents in this sector that only a small number of animals are marketed through the informal markets namely smallholder farms, village markets and informal slaughtering facilities. However, the figure shows that only a small proportion of animals is sold to the formal feedlot/abattoir channel.

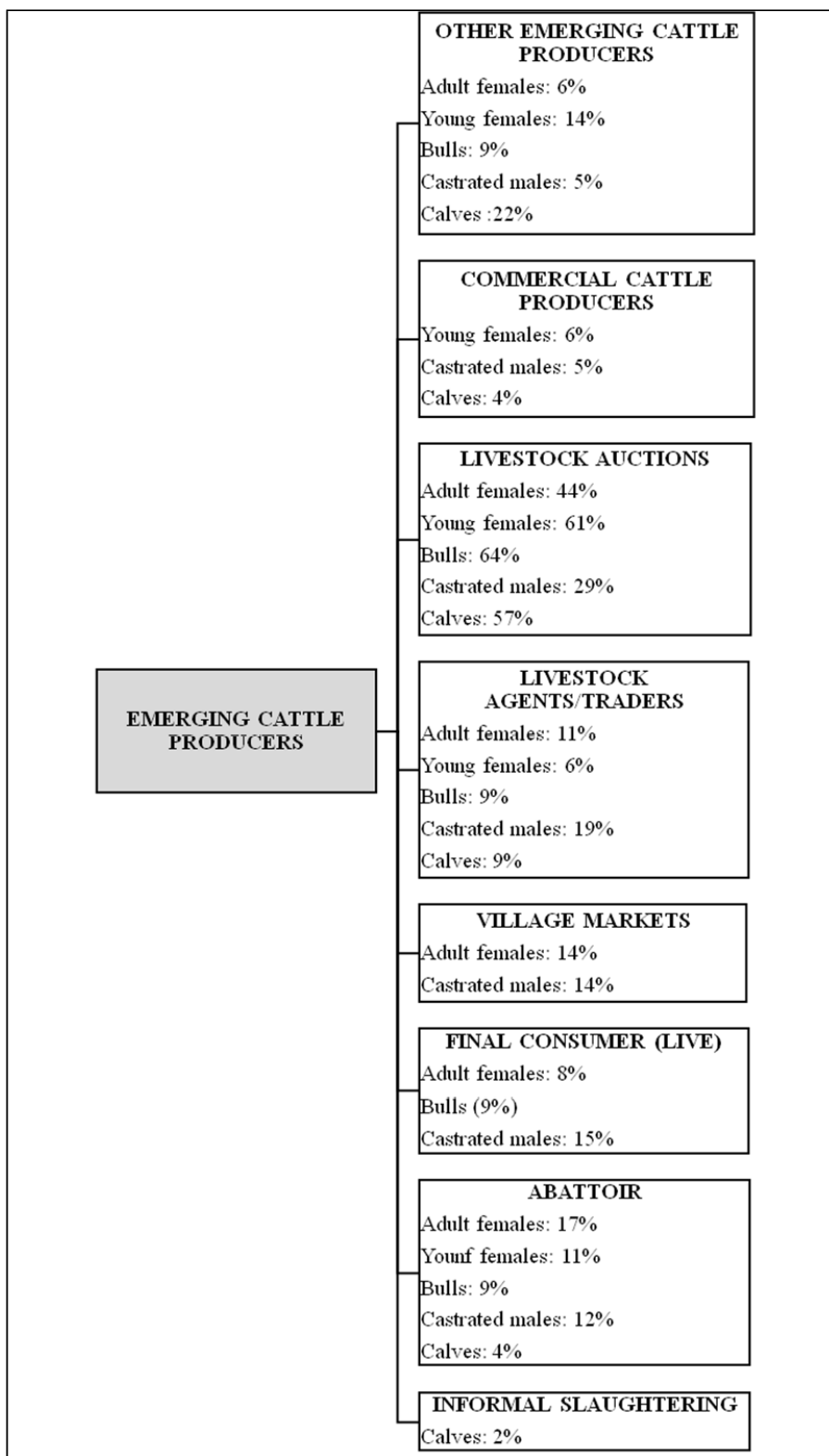


Figure 2: Marketing channels utilised by informal producers in the EC per type of cattle

Source: Authors' own calculations

4. Risks and constraints

One of the sections of the questionnaire used for data capturing is aimed at capturing the respondent's perceptions on production and marketing risks and constraints. They were given a list of six of each and asked to rank them from 1 to 6 in order of importance (1 being the most important). There was however communication difficulties with regard to the interpretation of the question between the enumerators and respondents. In some cases the option of rank 1 was given to more than one option as they regard more than one the most important.

Table 2 list the available options for ranking and the percentage of respondents that ranked the specific risk/constraint as 1 (most important). The higher the number, the higher the frequency that the constraint or risk was indicated as the most important. It is evident from the table that access to markets and information availability was highlighted as main constraints while climate and disease was the predominant risk factors according to the respondents.

It is interesting to note from Table 2 that the availability of physical cattle markets is not seen as a constraint, rather the type of animal marketed. A large proportion of adult female animals are still marketed at auction and abattoir level. In South Africa 80 percent of animals are typically marketed through the feedlot/abattoir sector before the age of one year. Information is mostly transmitted through extension officers. This include information regarding production practices; input use; animal health issues; physical markets; output prices; product standards; traceability and product standards. This indicates that there is still a need for training of more extension officers to provide to the information requirements in this sector.

Table 2: Constrains and risks

Constraint	#	Risk	#
Access to markets	68	Climate	81
Access to information	65	Disease	70
Access to inputs	60	Availability of inputs	59
Variability in prices	52	Theft/corruption	57
Access to credit	49	Predation	42
Low productivity levels	48	Non-payment	27

Source: Authors' own calculations

5. Conclusion and recommendation

Market access is always an important discussion topic when considering developing, emerging or small-scale producers. In most instances the availability of a physical market is not the main constraint but rather the product that is supplied to the market. Information and information sources still tend to be one of the main constraining factors with the main source of information being the extension officers. This highlights the need for the training of extension officers.

This study proved that physical market access is not necessarily limited as the majority of the animals are marketed through formal value chain participants. However, there is a need for alternative animals which is not always demanded by the formal value chain, i.e. older animals. There currently exist a niche market for older “grass-fed” or “free-range” cattle, as mentioned this study forms part of a bigger study where these value chains are being investigated from, amongst others, feasibility angles.

Currently, the performance of the informal sector in the research area is still below national estimates in both calving- off-take rates.

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David Spies' interest's lies in the field of production economics, value chain analysis, marketing and trade. He has made several contributions to the South African red meat industry, both in the commercial as well as the informal sectors. Future research will include the improvement of agricultural productivity in the informal sector

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