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# Awareness and the perceived effects of the New Livestock and Meat Industries Act of 2006: a case study of Kgatleng and Kweneng districts, Botswana

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## Abstract

The objective of this study was to determine whether butchery owners in rural Botswana are aware of the New Livestock and Meat Industries Act of 2006 and their perceptions as to how it will affect their businesses. The study further sought to determine whether the present slaughter facilities were compliant with the New Act. A structured questionnaire was administered to butcheries in selected villages of Kgatleng (n=9) and Kweneng (n=4) districts to get butchery owners' views about the New Act and how it will affect their businesses. Data was analysed using frequencies.

The study found that the majority (77%) of butcheries in the study area were aware of the New Act and were in fact in agreement with it. However, all the butchers doubted the ability of the Department of Veterinary Services (DVS) to implement and enforce the new regulations because of lack of personnel. The study also found that all the slaughter facilities owned by the butchers interviewed were not compliant with the new regulations. As a result, butchers felt that the New Act will increase their costs as they will be required to either build new abattoirs that are compliant with the new regulations or hire the abattoirs approved by DVS.

**Key words:** butcheries, complaint, enforcement, food safety, hygiene, slaughter facilities

## Introduction

Food safety has received increasing attention from governments, consumers, and academic audiences in recent years (Schofield and Shaoul 2000; Dunn 2003; Nestle 2003; Friedberg 2004). Governments around the world have introduced new hygiene policies as a means to assure consumers of the integrity of their food systems (Friedberg 2004; Worosz et al 2008). Far from being immune to such changes, Africa, and more specifically Botswana, is experiencing changes in the governance of the food safety system in both the public and the private sectors (Emongor and Kristen 2007). In Botswana, one such change is on the meat industry, where the Livestock and Meat Industry Act of 1965 has been reviewed and certain sections amended. The

Act has been amended to ensure that meat reaching consumers is safe and that same hygiene standards are met for both local and export abattoirs.

The new Livestock and Meat Industries Act of 2006 became operational on 17 August 2007. The Act requires that all abattoirs including the existing ones should register with the Department of Animal Health and Production (DAHP), now the Department of Veterinary Services (DVS). Under the new Act, the control, supervision and inspection of red meat and poultry abattoirs (poultry was not included in the previous Act) will be consolidated under one authority, the DVS of the Ministry of Agriculture (MoA). Control aspects include licensing and revocation of licensing where there is contravention of standards. The centralization of the inspection of meat is meant to ensure that only wholesome and safe meat is sold to the public. Inspection by DVS is meant to guarantee independent meat inspection and carcass grading as opposed to what was the situation previously, where inspection for export abattoirs was carried out by DVS and for local abattoirs it was carried out by respective city and district council officers using different standards (Fanikiso 2007).

The new law requires that all facilities be subjected to statutory requirements for construction, layout, equipment and operational requirements as specified in the Livestock and Meat Industries regulations (Fankiso 2007). By-law enforcement at butcheries and retail shops following dispatch from the slaughter facility will be the responsibility of the local authorities through respective councils. Thus, the new Act has as a primary aim, to improve the hygiene standards especially in domestic abattoirs. The objectives of this study were; to find out how much knowledge butcheries have about the new Livestock and Meat Industries Act of 2006; determine the proportion of butcheries that own slaughter facilities and find out butchery owners' perceptions of how the new act will impact their business using selected butcheries in Kweneng and Kgatleng districts as case studies.

## **Materials and methods**

The study design was a cross sectional survey of the butcheries in selected villages of Kgatleng (n=9) and Kweneng (n=4) administrative districts. Data were collected through an administered questionnaire from butchery owners in the selected villages of Odi, Modipane, Sikwane, Malotwane, Mabalane and Mmathubudukwane (Kgatlang) and Metsemotlhabe and Mmopane (Kweneng). The villages were selected in part based on convenience with respect to their distances from Gaborone, where the researchers were based.

Primary data were collected through an interview schedule using an administered questionnaire in July 2007, just prior to the implementation of the New Act. The questionnaire sought information on, the characteristics of butcheries, knowledge of the new Act, ownership of slaughter facilities, sources of meat supply and the perceptions of butchery owners as to how the new Act will affect their businesses.

Once villages were selected every effort was made to interview all butcheries in each village. For the purposes of this study, butcheries are defined as businesses in which the primary product for sale is meat. Therefore, stores that receive a significant portion of their sales from non-meat

products were excluded from this study. The total number of butcheries in each village was established by asking local residents, butcher owners and employees if there were other butcheries in the village. Through this technique the total number of butcheries in each village was established. Out of the twenty one (21), a total thirteen (13) butchery owners were interviewed which represents 62% of the population. Only butchery owners were interviewed, as it was determined that the owners were the ones in the best position to give the most accurate information about their business. Data was analysed by means of frequencies using Statistical Package for Social Scientists (SPSS).

## Results

Most (9) butcheries are located in Kgatleng district and the reminder are situated in Kweneng (Table 1). The majority (62%) of the butcheries employ one to two permanent employees in their stores. The remaining butcheries employ three to five people and others complement their labour by employing casual labourers especially for looking for slaughter cattle and skinning cattle. (Table 1). The least number of cattle slaughtered per month was one and the largest number was twenty eight (28). Kweneng butcheries slaughter relatively more cattle per month than their counterparts in Kgatleng (Table 1). The reason for this is that the Kweneng villages are more populated and nearer to Gaborone and hence have more customers.

**Table 1.** Characteristics of butcheries in the study

Butchery No.	District	Village	Number of employees	Number of beasts killed per month*
1	Kgatlang	Odi	3	4
2	Kgatlang	Odi	1	4
3	Kgatlang	Modipane	1	4
4	Kgatlang	Sikwane	2	2
5	Kgatlang	Malotwane	1	1
6	Kgatlang	Malotwane	2	5
7	Kgatlang	Mabalane	1	4
8	Kgatlang	Mmathubudukwane	2	4
9	Kgatlang	Mmathubudukwane	1	1
10	Kweneng	Metsemotlhabe	3	N/A
11	Kweneng	Metsemotlhabe	3+	28
12	Kweneng	Mmopane	4+	12
13	Kweneng	Mmopane	5	8

+ refers to casual labourers; N/A means that they only purchase boxed beef, thus no animals are slaughtered.

\* - refers to cattle only

Retail prices for beef range from Pula (P) 16/kg to P25/kg, with the lowest prices being charged by butcheries located in Kgatleng (Table 2). It was also found that in general, rural village

butcherries just sell meat by the kilogram (kg), with no specific cuts and with one set price for all meat regardless of type of meat sold. A sizeable number (46%) of butcherries do not own slaughtering facilities and those that own slaughter facility have a simple slaughter slab consisting of a concrete floor where cattle are skinned. Five (38%) butchery owners sell meat that is slaughtered in the bush. Only two (15%) butcherries use the local abattoirs in their area (Table 2).

**Table 2.** Average prices, source of supply and ownership of slaughter slab

<b>Butchery No.</b>	<b>Average price, P/kg<sup>a</sup></b>	<b>Source of supply</b>	<b>Ownership of slaughter slab</b>
1	19.50	Another butcher	No – bush <sup>b</sup>
2	20.00	Local and Boxed	No - bush
3	20.00	Local and Boxed	No - bush
4	16.50	Local	No – borrow slab
5	16.00	Local	Yes
6	19.00	Local, Boxed, Agent	Yes
7	16.00	Local	Yes
8	20.00	Local and Boxed	Yes
9	19.90	Local	Yes
10	21.00	Boxed	N/A
11	18.00	Local	No- bush or local abattoir
12	25.00	Local and Boxed	Yes
13	24.00	Local and Boxed	No – bush, local abattoir, borrow slab

*a = exchange rate PI = 0.13 US\$*

*b = Bush refers to slaughtering animal on farmer's land or other location without the use of a slaughter slab or municipal abattoir.*

Regarding the source of supply for meat, all butcherries interviewed, with the exception of two, source the animals for slaughter from area farmers. The two exceptions include one butchery that gets its supply of meat from another butchery (who sources the animals from local farmers) and another one that relies solely on Botswana Meat Commission (BMC) boxed beef. However, of those butchers that source animals from area farmers, most butchers said that they sometimes have a problem finding suitable cattle, either because more farmers are now selling to the BMC (as the BMC has increased the price paid to farmers) or because during periods of drought the cattle are too skinny. When supply problems arise, a total of six butchers indicated that they purchase boxed beef from wholesalers for their butcherries to supplement their supply, one closes the store if there is not enough supply, and the rest said they continue to seek out animals from local farmers.

Most (77%) butchery owners were aware of the new Act. However, half of those who were aware of the new Act knew very little about it (Table 3). In terms of the sources of information about the new Act, it is apparent that the majority (46%) heard about the new Act through word of mouth, followed by those who heard at a local council meeting (30%) and radio which was indicated by only one butchery owner (Table 3).

**Table 3.** Awareness of the New Act and sources of information about the Act

<b>Butchery No.</b>	<b>Awareness of the new Act</b>	<b>Sources of Information</b>
1	A little	Word of mouth
2	No	N/A
3	No	N/A
4	A little	Heard about a meeting, but did not attend
5	Yes	Attended a local meeting
6	Yes	Word of mouth
7	Yes	Attended informational meeting
8	A little	Word of mouth
9	A little	Word of mouth
10	Yes	Radio announcement
11	Yes	Word of mouth
12	No	N/A
13	A little	Word of mouth

All butchers felt that the new Act is a good thing, in terms of improving the safety of the meat made available to consumers. However, seven (54%) of the butchers expressed dismay at the ability of the government to effectively implement and enforce the new Act. For butchers that were interested in building a private abattoir, they expressed concern over the limited number of inspectors that will be available to inspect the slaughtered carcasses. For example, only two (7%) of the butchers interviewed said they currently call an inspector to inspect the carcass after it has been slaughtered prior to sale, and one of these butchers stated that when the inspector fails to show-up he sells the meat anyway. The other ten butchers do not currently call an inspector, although all butchers are supposed to have their meat inspected prior to sale.

Butchers that have previously used municipal abattoirs expressed many negative feelings about their experiences, including appallingly low levels of hygiene in the abattoirs, line inefficiencies which have required that the butcher wait in line to slaughter their animal(s), and complaints that abattoir employees do a poor job of skinning the carcass, or worse, that employees steal meat from the carcasses. Thus, in summary, all rural village butchers, while supportive of the new Act in general, have many reasons that they are not confident in the ability of local and national government to effectively implement and enforce the new Act.

Butchers also perceived the new Act as affecting their business in several ways. All the butchers felt that in order for the new Act to be effective farmers and consumers need to be educated

about the new Act. Currently, the majority of butchers pay farmers for the animal prior to slaughter. In order for the new Act to work, butchers will need to change the point at which they pay farmers, waiting until after the carcass has been approved by the health inspector. Butchers felt this will cause significant problems, as farmers will not want to be paid later. As one butcher said when he tried to explain to a farmer that he can only pay him after the animal has been slaughtered, the farmer told him, “I do not sell meat, I sell cattle.”

In addition, several butchers support more public education about the new act and, more generally, about the importance of only buying meat from vendors slaughtering animals in proper facilities. One butcher captured the tension of trying to implement the new Act while consumers remain unaware of meat hygiene concerns. He said that he has a slaughter slab, as required by the district council, but the butcher down the road slaughters in the bush. Customers will purchase the cheapest meat, regardless of where the animal is slaughtered, thus he is competing with a neighbouring butcher that is able to sell cheap meat because his neighbour does not follow the required slaughter slab regulations.

All the butcher shop owners, with the exception of the store that only sells boxed beef, raised the issue of proximity to an approved abattoir. Approximately four butchers proposed that they would try to build their own abattoirs, but most butchers in this study felt that the cost of building an abattoir was too high, and thus they hoped that an approved abattoir would be built in their area. One butcher was aware of an abattoir being constructed in the Kgatleng district and he had already calculated that the total round-trip distance from his store to the abattoir would not be greater than the amount he currently spends on transport to find cattle (under the new system he will have the cattle farmers meet him at the abattoir). However, for the most part, none of the other butchers were aware of a new abattoir being constructed and most agreed that the current abattoirs were too far away from their shops to be profitable.

Only a few butchers had clearly spent time thinking about how they will respond to the new Act. Those that had spent some time thinking about the Act had already thought of the issue of transportation, in terms of needing a refrigerated truck to pick meat up from the abattoir. One butcher had also thought about the challenges presented by the fact that not all the animals he purchases from farmers have a Bolus (the device inserted into the animals’ omasum in the stomach for traceability purposes) – and all cattle slaughtered at an approved abattoir will be required to have a Bolus. Overall, most butchers seem to accept that the new hygiene Act was going to be implemented and it would affect their business, but very few had a plan for how they would survive in the new regulatory environment. At least two butchers conceded that they had considered closing their stores, and they suggested that if the new Act required significantly more financial investments that they would likely close the store and attempt to rent the store space.

While most small village butcher owners support the idea of improved hygiene for meat products sold to consumers, the vast majority know very little about the new Act and they do not know how they will adapt to the new regulatory environment. Butchery owners correctly anticipate that the new law will increase their operating costs as “most government [food safety] regulations have some sort of economic effect on producers and consumers” (Crutchfield et al

1999), however, only one village butcher owner has done a basic cost-benefit analysis to determine if he could adapt to the new regulation and maintain his business.

## **Discussion**

All butchers do not have slaughter facilities that are compliant with the new Act. This means that they will have to either construct new facilities or hire facilities that are compliant with new Act. Both of these will increase their operating costs, which will ultimately be passed to consumers. It is apparent that very little information has been disseminated to butchers and other stakeholders such as farmers and consumers. In order for the new Act to have its intended benefits there is a need for wider dissemination to all stakeholders involved.

Assuming that the number of health inspectors remains limited in their ability to enforce health and food safety regulations, there will continue to be rural butchers that do not conform to the new regulations. Unless consumers are educated about the importance of purchasing meat that was slaughtered in hygienic facilities, butchers that are following the new regulations will face unequal competition from butchers that are not following the new regulations.

## **Conclusions and recommendations**

- Based on this study, it is clear that the New Act will increase the butchers' costs. It is apparent that the present slaughter slabs and slaughtering in the bush do not meet the requirements of the new Act. The butchers will therefore have to construct new slaughter facilities or hire approved slaughter facilities, both of which will increase their costs.
- When correctly implemented, the new Act will ensure that consumers receive meat that has been properly inspected and slaughtered in such a way that it produces a cleaner product. While centralization increases the potential for oversight, it also increases the potential for food safety crises that affect a larger number of people, as it only takes one source of contamination to taint a much larger quantity of meat than can occur in a fragmented or decentralized slaughter system. Thus, pursuit of centralization in the abattoir system requires increased attention on the day-to-day details of maintaining a hygienic abattoir.
- Similarly, there is increasing momentum to liberalize the agricultural sector of Botswana. While economic liberalization policies are beyond the scope of this work, it is important to note that economic liberalization policies when combined with new hygiene regulations can actually contribute to a significant increase in the number of abattoirs operating in the country. If a dramatic increase in the number of abattoirs were to occur

this would strain the resources of MoA and would, in the short term, lead to abattoirs operating with very little oversight.

- Further research should be carried out to determine the cost-benefit analysis of new hygiene regulations at the local, regional, or national levels; an assessment of the risks and benefits associated with centralization of slaughter facilities; and a consideration of market liberalization policies that can support or frustrate efforts to revise meat hygiene regulations.

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