

NON REGULATORY CONSTRAINTS AFFECTING PIG INDUSTRY IN ZIMBABWE

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ABSTRACT: *This study was done to review the status of pig industry in Zimbabwe and find out the non-regulatory constraints to production and marketing using a value chain approach. The study used literature and secondary data from stakeholders and service providers as well as primary data collected through key informant interviews and focus group discussions. Data were analyzed mainly by value chain mapping and descriptive statistics. There are key players and service providers in the pig industry who play various roles from input supply, production, processing until the product is available to domestic and international consumers. Pork production has been going down over time from a record high of 20000 sow units in 2007 to about 10000 sow units in 2010. Pork production is further threatened by weak demand for meat estimated at 8.7kgs per capital. Key internal and external non regulatory constraints identified with percentage scores were poor breeding stock (84%), electricity gap (70%), abattoir fees (73%), skills gap (67%), shortage of abattoir facilities (57%), low production capacity (64%), low yield levels (64%), finance (61%) and low demand for pork (47%). These factors were noted as inhibiting growth and development in the sector. This paper will conclude by indicating that there is a need for a serious review of the operating environment of the industry in order to ensure the smooth running of business in the pig industry in Zimbabwe given the volume of issues identified by stakeholders in the pig value chain. It is recommended that further detailed research and inquiry be made around the various issues identified to provide hard evidence on the impact of such operating environment on the performance of the industry. With this evidence, stakeholders will gain more understanding of the need to create a favorable operating environment that will see growth and development in the pig industry.*

ORIGINAL ARTICLE

Key words: *Literature, Secondary, Primary, Performance, Evidence, Business, Stakeholders*

INTRODUCTION

Over years, Zimbabwe has experienced significant decrease in agricultural production and exports. Agriculture Gross Domestic Product (GDP) decreased from approximately 21% in 2001 to less than 10% in 2008. Even though the agriculture sector contribution to the GDP increased by 15% in 2009, 34% in 2010 and 20.4% in 2011, the levels were still far below those achieved prior to 2000. Since 2002, Zimbabwe has experienced general decrease in livestock population. Between 2002 and 2005, cattle population on large scale farms declined from about 25% of the national herd to less than 13% of the national herd (Anseeuw et al., 2011) and to less than 21,689 (less than 1%) in 2009. Dairy herd also declined from 104483 in 1994 to 43159 in 2004 and to 22000 in 2009, leading to decline in milk production and the national sow unit decreased from over 18 000 to just 8000 between 2001 to 2008 (Pig Industry Board or PIB, 2010). By 2009, the livestock population of Zimbabwe consisted of 5.1 million cattle, 21689 dairy, 397800 sheep, 3.2 million goats and 202234 pigs (Ministry Of Agriculture, Mechanization and Irrigation Development or MoAMID, 2010). According to Moyo (2012) on City Press, the declines in crop and livestock production and yields were largely due to the shortages of inputs that affected all the categories of farmers, rising input costs, and inadequate credit, incomes, savings and wage remittances. The low yields are also due to the increasing frequency of droughts.

FAO projections in food demand suggest that food demand will increase by almost 50% towards 2050 (FAO, 2003). This is in line with the expected increase in population over time, the past 100 years have seen the world's human population increasing by nearly fourfold (UN, 2007); and it is projected to increase from 6.7 billion (2006) to 9.2 billion by 2050. To increase crop and livestock production in line with increasing demand for food, three primary factors should be considered and these are; increased cropland and rangeland area (15% contribution in 1961–1999); increased yield per unit area (78% contribution); and greater farming intensity (7% percent contribution)



(FAO, 2006). Thus for food production to keep pace with population demand, there is a need to invest in more efforts to increase yields, continued expansion of cropland by conversion of natural habitats, or by optimizing food or feed energy efficiency from production to consumption.

Prompted by the need to strategically position themselves in the meat industry, especially after economic stability brought about by dollarization and formation of government of national unit by early 2009, stakeholders in the livestock industry in Zimbabwe have been airing several views in various forums about critical issues that could hamper competitiveness, growth and development in the sector. Simply defined, competitiveness is the ability of a firm or a nation to offer products and services that meet the quality standards of the local and world markets at prices that are competitive and provide adequate returns on the resources employed or consumed in producing them (<http://www.businessdictionary.com/definition/competitiveness.html>). Competitiveness is affected by both endogenous (capacity/ability, key factors of production such as climate, land, capital, labour and technology, efficiency of farm operation, sustained quality production etc.) and exogenous factors (policy environment, services, market demand, prices, market access, infrastructure development, research and development etc.).

Thus this study was designed to bring out key internal and external non regulatory factors affecting pig industry in Zimbabwe in order to assist stakeholders in strategizing for industry development given the downward trends noted earlier in production. Other factors such as the regulatory issues were dealt with in another paper to simplify the work and provide the focus on non-regulatory issues. The evidence produced from this work will be useful to various key stakeholders in the industry in terms of strategizing for issues they need to deal with internally and externally to improve the performance of the industry.

MATERIALS AND METHODS

This study was carried out in Zimbabwe and major elements of the study were stakeholders and service providers in the pig industry. The key stakeholders considered included pig commercial farmers, pig breeders such as Pig Industry Board (PIB) and other individual breeders, stock feed manufacturers, abattoirs, processors and butcheries (wholesale and retail). Service providers consulted were meat inspectors, animal health service providers and farmer organizations such as Pig Producers association of Zimbabwe, Livestock and Meat advisory Council of Zimbabwe among others.

The study used literature review, secondary data from stakeholders and service providers as well as primary data collected through key informant interviews and focus group discussions. Stakeholders were asked to identify and jointly prioritize by scoring constraints using a well-defined criterion that considered expected impact and risk, action required, responsible organization, time dimension, and resources required. Data were analyzed mainly by value chain mapping, and descriptive statistics to summarize the data obtained into meaningful form for the purpose of this study.

RESULTS

Key players and service providers in the pig industry value chain

The study revealed that there are key players and service providers in the pig industry in Zimbabwe working as a network of interconnected units to ensure delivery of pork and pork products for consumption in the domestic and international markets. The value chain consists of input supply, producers, stock feed manufacturers, abattoirs, processing wholesalers, retailers and consumers. Service providers include other players who facilitate activities along the value chain to ensure product delivery such as farmer organizations (LMAC and PIB), veterinary services, health inspectors and others. Details of the various players and service providers are indicated in Figure 1 below.

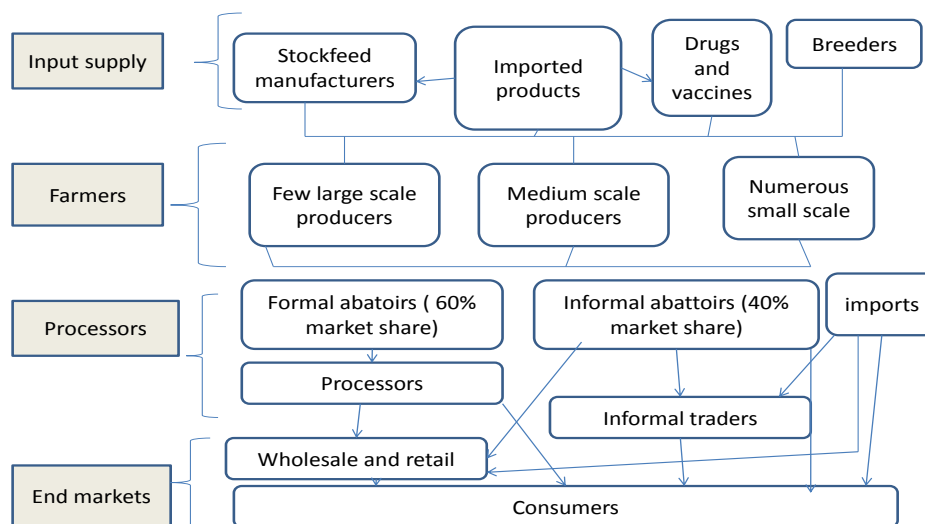


Figure 1. Pig industry value chain; Source: USAID, 2010 and Field survey

Players in the Pig Industry in Zimbabwe

The input supply sector provides the various inputs needed in the pig industry, these include pig breeders, feed manufacturers and veterinary services. Production sector consists of a few large scale commercial farmers (Gilt edge, Daveport, Tripple C), a number of medium scale produces and numerous small scale semi substance producers. Abattoirs are registered slaughter facilities, operating in accordance with given standards that buy and slaughter livestock from the farmers for price based on the dressed weight and grade. They sell raw and processed pork meat to wholesalers and retailers. The other abattoirs like Koala, Montana Meats, Caswell Meats and Surrey (Meat Graders data base) are into pig and other livestock slaughtering for retail customers. In addition, there are numerous, unregistered and small slaughter providing pig meat at irregular times for the fresh meat market. Wholesale and retail sectors of pork consists of numerous butcheries, numerous supermarkets who buy mainly processed (tinned, bacon, polony, chops, ribs, sausages etc.) pork from colcom and mainly raw pork from other abattoirs for sale to consumers.

Besides key player as indicated in the value chain, there are service providers who include, Pig Industry Board (PIB), Veterinary services, Meat graders, farmer organizations, stakeholder organizations, transporters and cash providers and others who play several facilitation roles along the commodity chain.

Pig Production in Zimbabwe

Pig production has been fluctuating up and down over the past decade. Zimbabwe national commercial sow herd peaked at nearly 20000 sows in 2007 from 15500 in 2005, then dropped by half to about 8000 in 2008 (USAID, 2010). To date the numbers is believed to be rising steadily and expected at about 10 000 sow herd (Figure 2). These figures exclude the pigs in the smallholder sector, which are estimated to comprise about 80% of the total pig population in Zimbabwe with the main function of ensuring food security and as a store of wealth with a very low off take.

The industry currently supplies approximately just above 100000 animals per year for slaughter and processing, equivalent of about 5000 MT of meat according to Meat graders data base. This is a major increase from a record low of 40000 animals in 2008. Figure 3, below show the slaughter figures over time.

Sow Herd

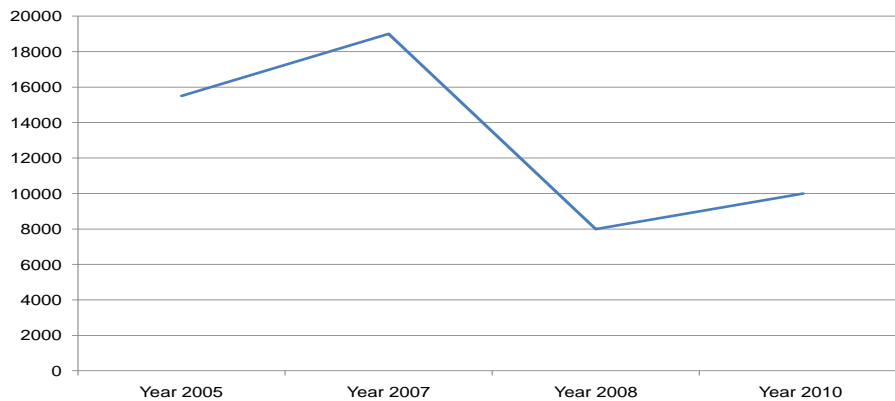


Figure 2. Trends in national sow herd

Number of pigs

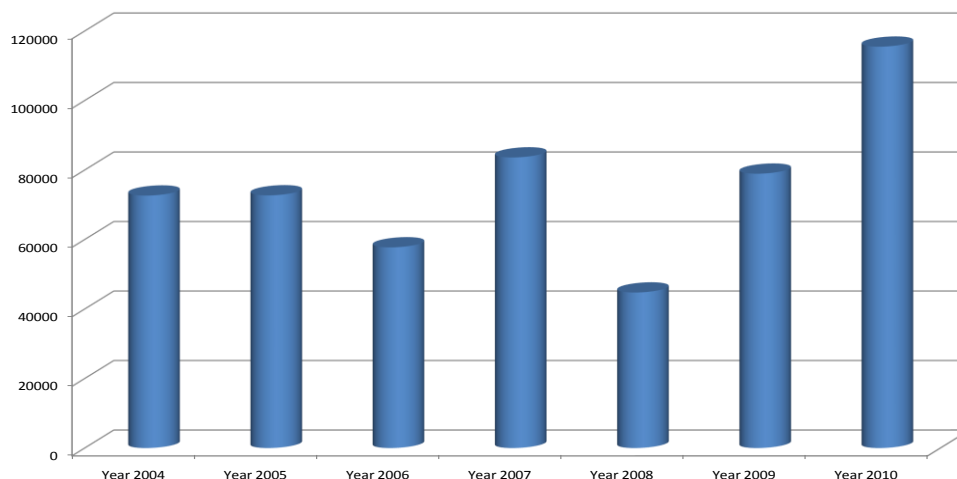


Figure 3. Annual slaughter figures



Classification of pork produced

According to DRSS Meat Graders data base, the classification of pig meat produced in Zimbabwe's registered pig abattoirs currently over 50% porkers, 30% baconers and the remainder being under porkers, general and manufacturing classes. There has been an increase in the proportion of porkers and a decrease in the proportion of baconers over the years as indicated by the Figure 4 below.

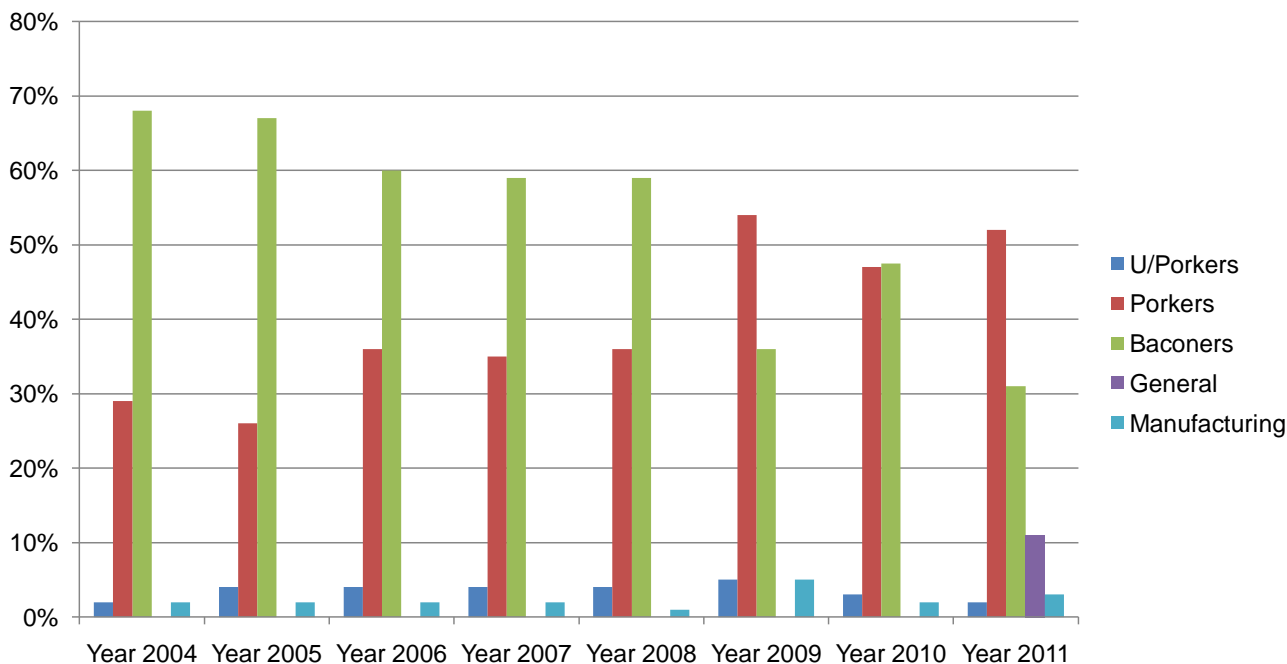


Figure 4. Classification of slaughtered pigs over years

Productivity at farm level versus theoretical standards

Results shows that farm production was performing below theoretical standards in areas such as litter size, litter per year, farrowing rate, dead weight feed conversion, mortality rate and age at 90kg weight mainly for small and medium scale farmers (Table 1).

Table 1 - Productivity at farm level versus theoretical standards

Traits	Benchmark	Farm category			Average Weighted
		Small	Medium	Large	
Proportion (%)	-	28	29	43	-
Litter Size	12+	6	9	11	9
Number of farrowings/year	2.24	2	2	2.24	2
Litter per year	27+	12	18	24.64	18
Farrowing rate (%)	88+	80	85	100	100
Growth rate in five months (kgs)	100+	50	85	100	78
Dead weight feed conversion efficiency	3.5-	4.3	4	3.8	4
Mortality rate (%)	3-	10	8	5	7
Age at 90kgs	150	270	159	135	188

Demand for meat in Zimbabwe

It is estimated that overall meat demand is currently between 6000 MT and 7000 MT per month, with beef demand around 1000 MT, chicken 3500 MT, and other meats, pork inclusive 2000 MT (USAID, 2010). Prior to the hyperinflationary environment period (2001-2008), meat consumption in Zimbabwe was estimated to range between 8000 MT and 10000 MT per month: 4500 MT of beef, 2500 MT of chicken, and 3000 MT of pork, fish, goat, sheep and other poultry. The proportionate demand for pork and other meats is believed to have fallen by 20% after 2008 compared to before hyperinflationary environment (USAID, 2010). In general assuming a population size of nine million people, Zimbabwe's per capital meat consumption is about 8.7 kgs per year.

Non regulatory constraints to pig production

Stakeholders identified key non regulatory constraints such as poor breeding stock, electricity gap, abattoir fees, skills gap, shortage of abattoir facilities, low production capacity, low yield levels, finance and low demand for pork as serious issues affecting the performance of pig industry in Zimbabwe in order of decreasing importance (Figure 5).



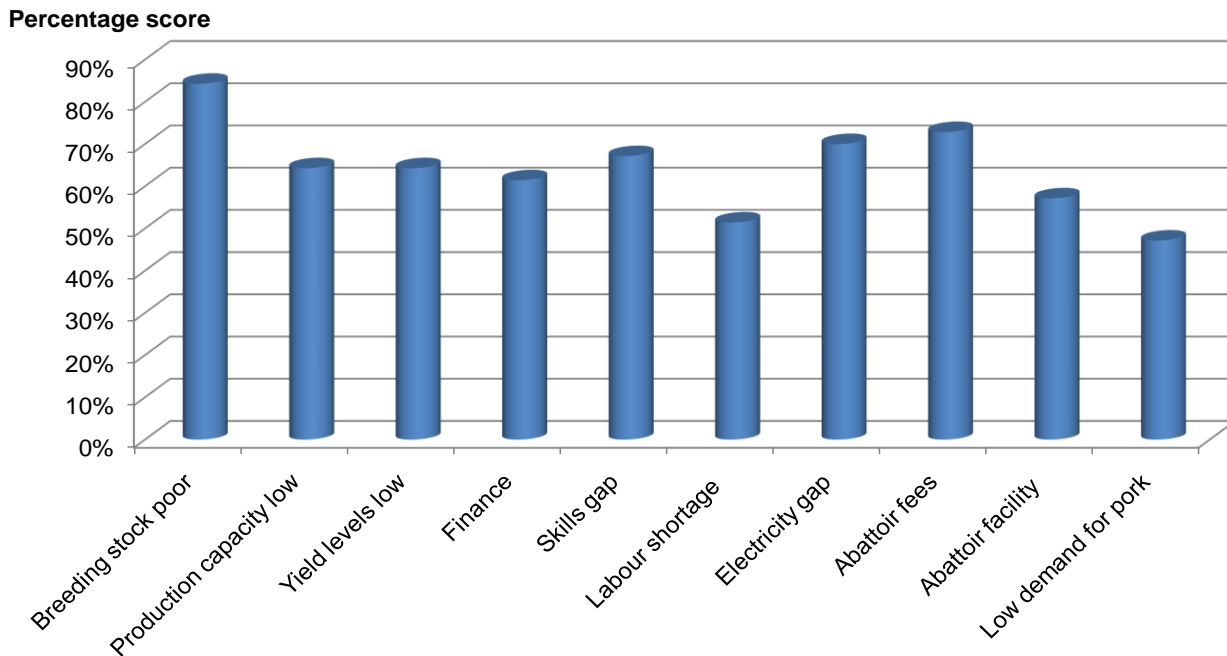


Figure 5. Non regulatory constrains in pig industry value chain

DISCUSSION

The results from this study show that there are a number of non-regulatory constraints that need attention in order to improve the operating environment of pig industry in Zimbabwe. The quality and availability of breeding stock was sited as a serious constraint in pig production in Zimbabwe. There are few and under capacitated breeders resulting in farmers using mainly retained gilts in production systems. The Pig Industry Board research station in Arcturus is responsible for breed testing and certification among other duties such as nutrition, training, extension and development. However the institution is confronted with limited financial resources to the extent that it cannot effectively deliver its services. Over the years, there has been outflow of breeders from the industry following the land reform programme that have seen a number of them losing their farms and the viability problems experienced during the first decade of the 21st century. Currently there is only one breeder producing breeding stock for farmers but without testing and certification by PIB as the parastatal is struggling with resources limitations. Plans to expand breeding capacity at PIB by 2008 have not been successfully completed due to resource constraints and the Foot and Mouth Disease outbreak in South Africa where grand parent stock were to be imported from were hampered the importation of good quality breeds from Topigs. Without an improvement in the quality of breeding stock, the industry will lag behind in terms of productivity. There is a need for stakeholders in the pig industry to invest in improved breeds for sustainable production in Zimbabwe.

According to informed sources, the electricity sector in Zimbabwe is characterised by a demand of 2 100 megawatts against a domestic capacity of only 1 130 megawatts. This creates a deficit gap. Half of this deficit of 970 megawatts could be met domestically if non-functional thermal power stations in the country could be returned to service. As it stands, electricity is has to be imported from Mozambique, South Africa and DRC, but financial constraints do not allow for imports to fill the gap completely. The supply of electricity is costly and erratic in some areas while there is no supply in remote areas as a result of shortages. Some farmers will need up to 4500 litres of diesel per week to make up for ZESA shortfalls (energy needed for pumping water, heating, milling the feed, refrigeration in abattoirs and lighting). Electricity charges sometimes not reflective on consumption, too high and not justifiable. Zimbabwe has the highest charges of electricity in the region. There is a need for stakeholders to consider alternative, reliable and cheaper sources of electricity such as sola and small localized power stations to mitigate against this crisis.

According to specification on health and safety standards, slaughter of animal for commercial market is supposed to be in registered abattoirs under veterinary and health inspectors. This condition is necessary to ensure that the necessary health and safety standards are observed for quality and safe products for international and local markets. Commercial farmers are thus mandated to take their livestock to these registered abattoirs for slaughter. The abattoir and slaughter fees at 15-20c per kilograms were noted as too high thus eroding farmer margins and in some cases discouraging farmers from using the abattoirs, slaughtering under informal unregistered facilities that can compromise health and safety standards. Further to this issue, shortage of abattoir facilities especially in remote areas where there are no registered slaughter facilities resulting in many resorting to slaughtering under unregistered facilities.

The issue of skills gap was also noted as a serious challenge, following the land reform programme in Zimbabwe. In the former agricultural system, over 40% of agricultural land was being utilized by experienced and trained commercialized farmers who were producing mainly for the market. The new occupants of over 90% of the farming community now comprised mainly non-experienced, semi-commercial farmers who are not so market-oriented. The new farmers need to be trained adequately in technical aspects of agricultural production to ensure that a good farmer is produced. There is a need to avail farmer training facilities at grassroots and provide adequate human resources to train the newly resettled farmer. The skills and management gap implies that there are production and productivity losses accruing to poor management and handling of pigs. Further to this, farmers are not so unionized, with a low turnout by stakeholders in supportive associations such as the Pig Producers Association (PPA) and the Livestock and Meat Advisory Council (LMAC) in the value chain. Lack of awareness was cited as the cause of such a situation by farmers. As a result of the non participation in unions, stakeholders are not benefiting from various benefits such as collective action, information sharing and facilitation in required services.

The availability and cost of stockfeeds was noted as an important challenge attributable to low production capacity of maize and soybeans in the local market, GMO restrictions and poor yield levels of maize and soybeans in the country. This has contributed to mushrooming of informal and unreliable stock feed industry that is causing a lot of harm to the sector, there is thus a need to invest in productivity increases at farm level, capacity utilization to ensure availability of stock feed raw materials.

The liquidity crisis currently experienced in Zimbabwe has resulted in unavailability of appropriate and cheap credit for farmers. Pig production is a medium to long term investment requiring credit facilities of the same nature. Currently only short term credit suitable for short term (one season) agricultural activities is available in the market. Furthermore, the cost of credit is not favourable to borrowers in Zimbabwe with interest rates ranging from 15%-30% per annum. This situation is resulting in farmers and other players experiencing serious limitations in infrastructure development, acquisition of breeding stock, staff housing, stock feeds and working capital. Further to this the land tenure system currently in place cannot be used as collateral resulting in problems in credit worthiness.

Finally, the low demand for pork in the local market means that if external markets cannot be secure, production levels has to be kept minimal with industry stakeholders compromising on the advantages of economies of scale. As indicated in the background information, pork is a weakly preferred protein choice, way low below beef and chicken. There is a need to establish why the demand for pork is low and how this demand can be stimulated.

CONCLUSIONS

This paper will conclude by indicating that there is a need for a serious review of the operating environment of farmers in order to ensure the smooth running of business in the pig industry in Zimbabwe given the volume of internal and external non regulatory challenges identified by stakeholders in the pig value chain. It is recommended that further detailed research and inquiry be made around the various issues identified to provide hard evidence on the impact of such operating environment on the performance of the industry. With this evidence, stakeholders will gain more understanding of the need to create a favorable operating environment that will see growth and development in the pig industry.

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