International Journal of Science and Research (IJSR)
ISSN: 2319-7064
ResearchGate Impact Factor (2018): 0.28 | SJIF (2019): 7.583

Exploring Value Addition in the Pork Market-Share Promotion Scheme in Namibia

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Abstract: ***Livestock farming has been identified as one of the most competitive and innovative segment of the agricultural offer.Unfortunately, due to a small domestic market, Namibia is a net exporter of livestock meat and related products.As part of the growth at home strategy, Pork Market Share Promotion Scheme, (PMSPS) was implemented in 2012. Creating more foreign markets with a high level of potential can increase foreign exchange earnings and create local employment. In the light of the aforementioned, the main purpose of this study was to examine the influence of value addition in the agricultural sector, with special reference to the PMSPS. This study was motivated by the absence of empirical evidence that has so far assessed PMSPS performance.The studyfollowed a mixed method research paradigm and twelve (12) participants were selected using stratified purposive sampling. Stakeholders in the industry from different government ministries and pork producers comprised the sample. Data were collected through interviews and panel discussions and were analysed using descriptive statistics and thematic data analysis method.The results demonstrate that PMSPS initiative has created meaningful opportunities for farmers in terms of market accessthereby increasingprofitability.Although this study may have sampling limitations occasioned by other constrictionsincluding secrecy, sensitivity and the politics that surrounds the PMSPS, it is recommended that producers could expand their operations to include, processing (value addition), to aid them give the preferred cuts that are currently not part of the scheme. It could be beneficial for the management of the PMSPS in Namibia to prioritize development of strategies that would increase cost effective local production, if they wish to reduce ceiling price and lower consumer prices.***

Keywords: Pork Market Share Promotion Scheme, Namibia

1. Introduction and Background

Since the attainment of Independence in 1990, the Government of the Republic of Namibia has initiated policies to improve the life of its people and grow its economy. From the onset, the Government recognised that, for it to achieve these objectives, it would have to institute policies that would support the promotion of internal development and growth, and that promote a balance between free market conditions and the advancement of its own internal industrial development policy objectives.

In terms of Vision 2030, Namibia is to be transformed into an industrialised country with diversified, competent and highly productive human resources and institutions (National Planning Commission, 2010). As part of this industrialization process, a White Paper on Industrial Development was drafted in 1992. The need for local value addition was already raised in this first White Paper on Industrial Development, which was subsequently reviewed in 1997 and thereafter adopted as the Second Industrial Policy and Strategy of 2002. The main aim of this White Paper was to redirect the Namibian economy from a focus on primary production and the export of raw materials to adding value and exporting finished products (Namibia Manufacturing Association, 2008).

This was echoed by the industry which formulated the following definition of value addition:
"Value addition is when additional production and/or manufacturing operations in terms of land, labour, capacity, utility, quality, appearance or form create incremental financial value at any particular stage of production by rendering the end product in monetary terms more competitive in the market without impacting negatively on any of the components of such value chain" (Meat Board of Namibia, 2006).Cabinet redefined value addition as per the Cabinet decision *6/17.04.07/007*, to read:"Value addition is the transformation of an original product into a new product or products by processing and/or manufacturing operations across the value chain of the industries with special emphasis on the degree of transformation".

According to the Namibian Manufacturing Association (2008), a clear distinction between primary, secondary and tertiary value addition needs to be made. Where primary value addition is the part of the production process that takes place from the producer up to delivering to the processor. Secondary and tertiary value addition is defined as the process from the processor stage up to where the final product is delivered to the consumer. This implies that all stakeholders in the value chain should benefit from the eventual value-added product presented to and purchased by the consumer.

To compliment this, the Namibian government adopted the Growth at Home Strategy, also referred to as "Namibia`s Execution Strategy for Industrialization". In other words, the Growth at Home Strategy, provides a road map for the execution of Namibia's Industrial Policy (MTI, 2014). This Strategy focuses on three strategic intervention areas that have been derived from the Policy framework, sector consultations, and stakeholder discussions, including the growth at Home conference.

1.1 Strategic intervention areas for Growth at Home Strategy

There are three strategic actions or dynamics of growth at home strategy, which are (i) supporting value addition, upgrading and diversification for sustained growth; (ii)

securing market access at home and abroad; and (iii) improving the investment climate and conditions.

Interventions such as the Small Stock Marketing Scheme and the Pork Market Share Promotion Scheme, aimed at supporting value addition promotes and provide needs oriented and comprehensive support to industrial development and upgrading projects, which contribute towards structural transformation of the Namibian economy. The interventions help enhance domestic value addition. Interventions on promoting market access at home and abroad, are aimed to stimulate the development of local industries by utilizing the potential of local procurement measures and by generating synergies between local producers and large retailers. Another main focus under this strategic area aims at creating conditions that boostNamibian exports, as well as the capacity of Namibian firms to supply and export goods at a competitive level (MTI, 2014).

The South African pork industry due to its economies of scale, dominates the Namibian market, since they are capable of producing in just seven days the equivalent of what Namibian producerscan yield annually. This has resulted in the pork industry deliberating on mechanisms to protect the local industry and make it more sustainable. The industry agreed on restrictive measures as the only tool to make the industry competitive and to regulate the importation of cheap pork and pork products into the Namibian market. This led, to the development of the Pork Market Share Promotion Scheme (PMSPS) implemented by the Meat Board of Namibia, which has eventually saved the industry from collapsing. This move, together with higher international prices, has triggered producer prices to recover, as pork imports from South Africa have been drastically reduced since July 2013 (Meat Board of Namibia, 2013).

The Pork Market Share Promotion Scheme aims to promote local pork production, as well as to protect the industry against the importation of low-priced pork meat and products as part of the infant protection policy. This is with the intention of growing the pork industry towards self-sufficiency in local pork supplies (Meat Board of Namibia, 2013). It is against this background that the purpose of this article investigates the impact of value addition in the pork market-share promotion scheme.

2. Research Context

Agriculture, as the backbone of Namibia`s economy, has a major role to play in achieving Vision 2030, since approximately 70% of Namibia's 2.1 million people live in rural areas and are directly reliant on subsistence agriculture for their livelihood (Brown, 2009). The Namibian agricultural sector is the second largest primary industry after mining (PWC, 2012). It is further claimed that with the inclusion of the meat processing industry, agriculture is the 7th largest contributor to GDP, after mining, the wholesale and retail trade, real estate and business services, education, government services and other manufacturing activities respectively.

The agricultural sector contributes to the overall economic growth by: meeting the food demands of a wealthy and growing urban population; increase agricultural exports which in turn bring in foreign exchange; job creation for the majority of the unskilled and semi-skilled personnel; providing capital for investment in the growing industrial sectors of the economy, and cash injection in the rural sector, which serves to increase demand for the products of the industrial sector (Mushendami, Biwa &Gaomab II, 2008).

Namibia is characterised by a dualistic agricultural sector, where a strong commercial sector exists along with a sector comprised of households in freehold or non-freehold areas (Mushendami, Biwa &Gaomab II, 2008). This dualistic character of the sector has been inherited from the apartheid regime, where the minority of the population obtained most of the land, and with the assistance of the state, turned it into viable commercial land.

2.1 Implementation of the Pork Market Share Promotion Scheme

The PMSPS aimed at promoting the local pork production as well as protecting the industry against the importation of low-priced pork meat and products as part of the infant protection policy. This was intended at growing the pork industry towards self-sufficiency in local pork supplies (Meat Board of Namibia, 2013). The specific aims of the PMPS were: to ensure the viability of the pork industry, to ensure the co-existence of the pig production and processing sector, and to protect the production sector against external influences (dumping, stockpiling etc.). The implementation of the PMSPS took the following measures:

- A quantitative restriction on the importation of fresh /frozen pork carcasses/cuts by a ratio of 1:3 (Local purchases (kg): Imports (kg));
- All importers and producers partaking in the scheme, were re-registered with the Meat Board and no permit was issued to unregistered producers.
- Producers/Importers/Processors partaking in the scheme handed in a 3 monthly production/import requirement schedule to the Meat Board, as well as a monthly performance report;
- Exporters could claim the share of processed pork products exported for consideration outside the scheme quota;
- No/part delivery of a pork supply contract by a producer to a processor were considered outside the scheme (Proof was to be submitted by either processor/producer);
- In the event of local pork shortages, imports were allocated to buyers on a percentage based on the previous three months' local purchases;
- No pig producer was allowed to import pork;
- The maximum/ceiling pork price per kilogram was calculated monthly as:
  RVAV *(Avg. BO/BP grades) +* ***Transport*** *(AVG Cape Town and JHB to Windhoek) +*
  Meat Board Import Levy *+* ***Slaughter fee*** *+ 20% Incentive*
- Processed products as well as casings were excluded from the scheme.

Historically, between the years 1999 - 2005, Namibia used to import a lot of pork meat, however since 2006 to 2014 local production increased. With the introduction of the Pork Marketing Share Scheme in 2012, local production increased to the extent that it surpassed the importation of pork meat. The Namibian pork industry is not large enough to cater for the international market, as a result, the piggeries only slaughter for the local market, which is somewhat not enough, and thus there is still a significant quantity of pork meat imports, (Meat Board of Namibia, 2013).

3. Theoretical Framework and Literature Review

This study, on value addition was anchored on two existing theories: the theory of business and the game theory. The theory of business emerged in early 90s from the thoughts of Peter Drucker. The aforementioned author argued that there is a need to create value that can be captured is the essence of business (Drucker, 1994). This implies an underlying dyad in that whereas creating value is an inherently cooperative process, capturing value is inherently competitive. To create value, people cannot act in isolation, they have to recognize their interdependence. Therefore, a business needs to align itself with customers, suppliers, employees and many others. That is the way to develop new markets and expand existing ones (Daly &Walsh, 2010; Drucker, 1994).

While the conventional economics takes the structure of markets as fixed, the game theory provides a different way of looking at the world. Nothing is fixed and that the economy is dynamic and evolving. For instance, people are thought of as simple stimulus-response machines (Camerer, 2003). Sellers and buyers assume that products and prices are fixed, and they optimize production and consumption accordingly. Conventional economics in most cases describes the operation of established and mature markets, but it does not capture people's creativity in finding new ways of interacting with one another. The Game theory, according to BaniakandDubina(2014), believes that the players create new markets and take on multiple roles such as innovating. No one takes products or prices as given since the marketplace continuously and rapidly transform.

3.1 The commercial sector

Commercial farmland in Namibia covers approximately 44% of the total land area and it houses 10% of the population (NTA, 2014). The aforementioned report further states that the commercial sector which is well developed, capital-intensive and market oriented, (including exports), is found south of the Veterinarian Gordon Fence, (red line), which comprises the southern two thirds of the country. There is presently an estimated, 4,500 commercial farmers, on title deeds land. The Meat Board of Namibia (2012) revealed that approximately 37 million ha of land was in the form of title deeds ownership, of which 25%, (amounting to approximately 9,400,000 ha) was owned by so-called previously disadvantaged individuals and the state. Commercial area livestock production accounts for almost 70% of national agricultural output and comes from 52% of the farming/grazing land. Red meat production is the largest contributor to commercial farming income.

The commercial areas are divided into fenced ranches, and further subdivided into a number of camps, through which some form of rotational grazing is normally practised. Compared to the communal areas, stocking rates tend to be more conservative. Due to factors such as limited bush and tree cutting for fuel and fewer browsing animals, large areas of the medium to higher rainfall savannahs, have become severely bush infested, to the detriment of the grazing potential for cattle and sheep. In response, there has been a marked increase in game farming and wildlife tourism in the commercial areas, in recognition of the difficulties and consequences of farming with mono-specific (grazer) domestic stock. This sub-sector is also characterised by an increasing number of so-called, “weekend farmers” – who are absent from the farm during the week, (or even longer periods at a time) (NTA, 2014).

3.2 The communal sector

Communal areas comprise 41% of Namibia`s landmass, (48% of the total farming area), and is called home by approximately 60% of the population (NTA, 2014). These areas differ markedly from the freehold areas in their production systems, objectives and property rights – with only the cropping areas normally allocated to individual households, while the grazing areas are shared by members of a community. It should however be noted that, there is an emerging trend of large fenced off exclusive ranches being established in the communal areas where a group of large and wealthy communal farmers are developing, (whilst it should be noted that this is an illegal practice and government has made some efforts to make people remove such illegal fences) (NTA, 2014).

Overall, the communal sector is characterised and dominated by so-called subsistence farming enterprises, (small fields of cereals, some vegetables and small numbers of cattle and goats used largely for own household consumption). These farms are low input - low output enterprises, based mainly on family labour with limited use of technology and external inputs. Whilst there are some exceptions and a significant number of communal farmers have substantial herds of cattle, the majority of communal farming households’ cash income is derived from non-farming sources (NTA, 2014).

Furthermore, the commercial and communal agricultural sector in Namibia can be categorised into two main areas namely: livestock farming and crop farming. Livestock farming in Namibia comprises cattle, sheep, goats and pigs. In terms of output, beef production is the major economic contributor in terms of livestock and is distributed through the various geographical regions of Namibia (Van Wyk & Treurnicht, 2012).

3.3 The global pork industry

Pork is eaten in the world more than any other meat (McGlone, 2013). As a result, global pork imports have increased on average by over 5% per annum over the past 8 years, (Bureau of Food and Agriculture Policy, 2014). The

population of the world is increasing slowly, but it is expected to plateau in the next 30–50 years. Growth in the population increases the demand for pork, (and other meats). Furthermore, as developing countries become more affluent, the population consumes more meat. World meat consumption is expected to double in the next 30–50 years. This has forced industrialized nations to develop systems that would support mass production in an efficient and effective manner as compared to the mixed and grazing systems of a century ago (McGlone, 2013).

3.4 Delineating value addition

Value addition is a concept derived from the term 'add value'. The North Dakota Department of Commerce Division of Economic Development and Finance (NDDCDEDF, 2011) describes value added agriculture as changes made to primary agriculture products (crops and livestock) that increase the product's value, thereby creating new economic activity and jobs(North Dakota, 2011). This is done by a process of activities that create significance for the product and/or introduce the product to new markets; diversification and/or modification of primary agriculture products, (North Dakota, 2011). Some leading researcher (Porter, 1980) perceived value addition as a representation of a firm's value-adding activities based on its pricing strategy and cost structure. This, he argued that value addition goes hand in hand with value chains since it not only starts at the beginning of the value chain but takes place along the chain. Porter argues that this approach is based on actual and potential areas of competitive advantage for the firm upon which each individual firm has its own value chain that is embedded in value systems, each of which has different functions within an industry or sector that influence and is influenced by other actors in the network.

According to Boland (2009) adding value is the process of transforming a product from its original state to a more valuable state. The aforementioned author further states that many raw commodities have intrinsic value in their original state therefore value addition comes as these commodities are being improved or changed into finished products. Therefore, value-added agriculture involves economically enhancing a product by changing its physical state, form, current place, time and from one set of characteristics to other characteristics that are more preferred in the marketplace (Boland, 2009; USDA, 2018). It is basically processing a product into a desired form by customers. As a result of the change in physical state or the manner in which the agricultural commodity or product is produced and segregated, the customer base for the commodity or product is expanded and a greater portion of revenue derived from the marketing, processing or physical segregation is made available to the producer of the commodity or product (Anderson &Hanselka, 2017). Thus, focussing on the benefits arising from quality, functionality, form, place, time and ease of possession of the agribusiness product or service translates to 'value' (Anderson &Hanselka, 2017). In the light of the aforementioned, the question posed in this article is: what is driving "value addition"?

3.4.1 Value addition measurement – the missing theoretical link

Agribusiness, particularly the food sector, is rapidly consolidating and increasingly responding to the changing tastes and preferences of consumers. Currently, with higher incomes consumers are focusing more on convenience, quality, variety, service, health and social consciousness. They are also faced with the increasing value of (and demands on) their time. In a nutshell, consumers are more value conscious than ever before. Rising disposable incomes and the market fragmentation caused by retail consolidation exacerbate competition, but at the same time leave many niche markets to be exploited. This creates opportunities for producers to add value to their products (Anderson &Hanselka, 2017).

According to various sources inter alia literature, research studies and surveys, there is evidence that in the agricultural sector all over the globe, it seems that measurement of value addition has remained virtually elusive, since different researchers used different methods to evaluate value addition. For example, Ngore (2010) investigated the influence that several factors relating to value addition have on the business in the butchery agribusinesses in Kenya. Their study finds that socioeconomic, the market and productsare important antecedents to value addition thus critical business strategic goals.This study concluded that value addition activities depend on the nature and other product specific factors. These categories of factors interact to influence whether the operator adds value and the level of value addition (Ngore, 2010).

Mapiye, Muchenje, Chimonyo, and Dzama, (2007) analysed the potential for value addition of Nguni cattle products in the communal areas of South Africa. This study concluded that development and research programmes aimed at reintroducing the Nguni breed in the rural areas should take a holistic and participatory approach in agro-processing and value-addition of cattle products. Increased value addition can be achieved by provision of appropriate incentives for the establishment of agro-processing industries in the rural areas and promotion of partnerships between communal farmers and agribusiness.

Admassu's (2007) study determined that consumers' decision on beef consumption is heavily influenced by quality and safety attributes. The aforementioned significant attributes were found to be fat content, freshness, neatness of butchery and personnel, abattoir stamp and price. Some other attributes like gender were found to be insignificant. Social economic characteristics of the consumers were found to significantly influence amount of meat demanded by the households. Correspondingly, Scollan. Hocquette, Nuernberg, Dannesberger, Richardson, (2006) and Moloney, conducted a review of existing body of research on value addition. The aforementioned researcher posits that consumers are becoming more aware of the relationship between diet and health and this has increased consumer interest in nutritional value of foods. This is impacting on demand for foods which contain functional components that play important roles in health maintenance and disease prevention. For beef, much attention has been given to lipids. It is evident that opportunities exist to enhance the

content of health promoting fatty acids in beef and beef products offering opportunities to add value and contribute to market differentiation. However, the aforementioned researchers underscore that it is imperative that these approaches to deliver 'functional' attributes do not compromise on the health value or the taste of the beef products (Scollan et.al 2006).

Gandhi, Kumar,and March (2001) collected data from agro industry stakeholders to analyse factors that inhibit growth of agribusiness and he pointed out that the major constraint is lack of finance. While agro industries have a large requirement of working capital, it was established that financial institutions are mainly geared to lending for fixed capital needs, with banks lend working capital, if at all, at higher interest rates than other capital loans. In a similar vein, Kibaara and Nyoro (2007) conducted a comparative analysis of emerging models of agricultural finance that have expanded the agricultural finance frontier to the smallholder farmers. Their study found that agricultural finance is very important because farming credit takes the highest proportion of rural credit needs. The study further revealed that state run model of agricultural finance was the least sustainable while community-based models were the most likely drivers of change in rural agricultural finance.

Although several studies of value addition were briefly discussed, there is however a noticeable gap, in that many of the studies are either not specific to the pork production sector or they lack relevance for the Namibian context. Furthermore, the concept of value addition is not similarly defined and results are difficult to generalize since they delved on different aspects. It is from the aforementioned reasons that this study was conducted among a sample of stakeholders in the Namibian pork agricultural sub-sector market.

4. Research Methodology

To understand the idea of value addition in the pork agronomysub-sector, the researchers were interested with what constitutes reality and how to generate knowledge about reality in the field. Creswell (2014) suggests that a research process is influenced by researcher's philosophy. Thus, this study was guided by a pragmatic research philosophysince participants were 'out there' whose responses could be counted. This philosophy provided the researchers with the freedom to investigate what was considered to be of stakeholder value in a way that was suitable to the research problem – underlying impact of the PMSPS (Lincoln, Lynham, & Guba, 2011).

A mixed method approach was used, whichfacilitated the collection of distinct datausinginquiry form and interviews.The population of the study consisted of pork producers, importers, retailers and policymakers. The producers were sourced from a list obtained from the Pork Producers Organization registered with the Namibian Agricultural Union. The importers and retailers' information were sourced from the Meat Board since all importers and retailers are registered with the Meat Board.

In this study, stratified purposive sampling was used to select participants from all the strata. Two mangers in top management from The Meat Board as well as two policymakers from the Ministry of Agriculture, Water and Forestry, Ministry of Industrialization, Trade and SME Development and the Namibia Trade Forum, were part of the sample size. On the other hand, due to the small number of pork producers that participate in the PMSPS the study opted to consult all of them, in total they were three.

Interviews were conducted with top management from The Meat Board and policymakers from the Ministry of Agriculture, Water and Forestry, Ministry of Industrialization, Trade and SME Development and the Namibia Trade Forum while an inquiry form was used to collect from pork producers, importers, and retailers. The SPSS (version 24) program was used to analyse the data. Themes that emerged from the interviews and panel discussions were quantified and captured into the SPSS program and thereafter descriptions of the entire data were done after analysis.

Finally, in this research, respondents were not susceptible to any psychological or physical risk or strain. The institutional guidelines were adhered to in the execution of the study. For instance, participants were assured of confidentiality and anonymity of their responses and participation was completely voluntary. Further, participants were informed about the study and collected data protection measured were observed.

5. Results

5.1 Economic benefits enjoyed by pork producers

The study revealed that pork farmers and producers reaped economic benefits from the introduction of Pork Market Share Promotion Scheme. Pork producers indicated that with the introduction of PMSPSthey never experienced any low season in terms of marketing their produce. The introduction of this scheme stabilised the market. This was as a result of the ceiling price which was part of the scheme that ensured that fair prices were offered. Furthermore, producers felt protected against cheap imports which resulted in all their products on offer being sold out.

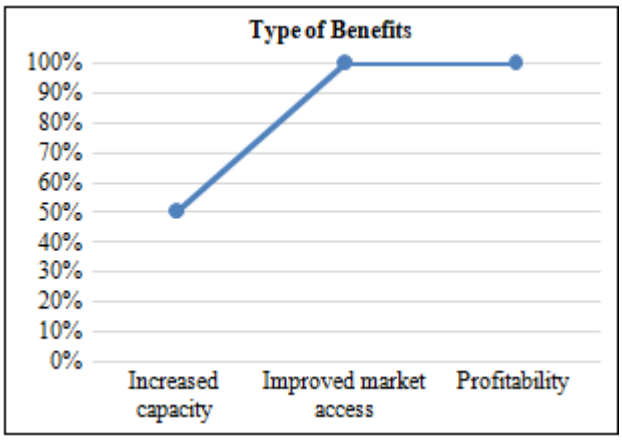

Figure 1: Benefits experienced and enjoyed by pork producers

Producers further indicated that the introduction of PMSPS increased their production capacity, improved market access and profitability. The protection enjoyed by producers as a result of the introduction of PMSPSstimulated the supply of pork products, and this resulted in increased productivity. This led to increased off-take rates and improved throughput at their abattoirs, which eventually enhanced their profitability. Statistics collected from the Meat Board of Namibia, echoed these statements. Figure2illustrates changes in the volume of pigs slaughtered before and after the introduction of PMSPS.

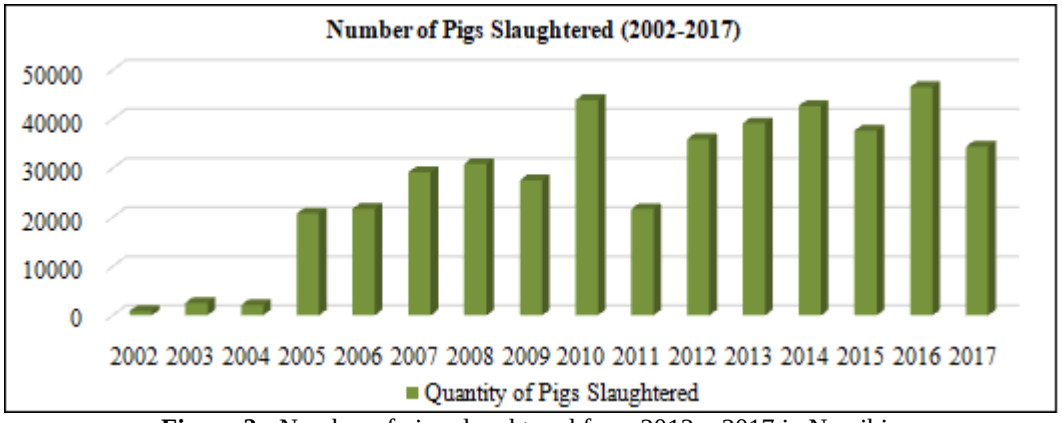

Figure 2: Number of pigs slaughtered from 2012 – 2017 in Namibia

According to Figure 2, pork production increased at an increasing rate with a notable spike from 2005 onwards. With the introduction of the PMSPS in 2012, the increase is notable in terms of volume when compared to the period before the introduction of the scheme.

5.2 The impact and benefits of PMSPS on pork importers and retailers

Importers and retailers are part of the pork value chain and conduct their operations to provide a service to their clients and to make a return on their investments. The findings from the study revealed that the introduction of PMSPS has had a positive impact on the producers and retailers of pork. 80%, of importers and retailers stated that, due to the PMSPS, they have a consistent supply of quality pork from local suppliers. They further pointed that the pork supplied is fresh on a daily basis. In addition, 80%, reasoned that local supply, has reduced their dependency on imports, however, 40%, complained that, although it is consistent, it does not meet their demand in terms of volume and preferred cuts. This is depicted in Figure 3.

Retailers and importers were found to be very much patriotic and sympathetic toward local pork production. They reckoned that they are willing to support the local suppliers since this project creates employment and reduce poverty.Quality of a product plays an important role especially in the current market dynamics that are dominated by consumer perceptions. Therefore, it is important not only to deliver the required volumes, but to also ensure the quality of the product in order to sustain demand.

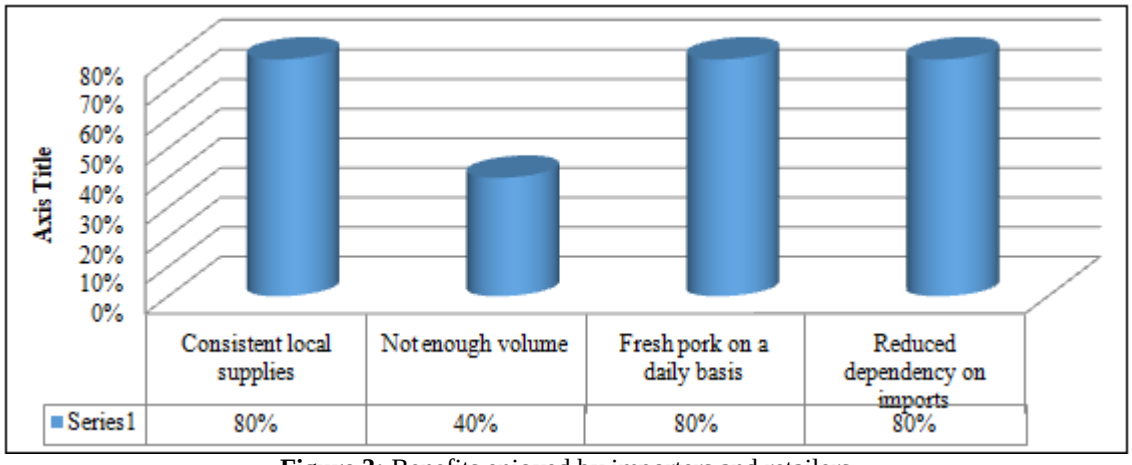

Figure 3: Benefits enjoyed by importers and retailers

5.3 Challenges experienced by the PMSPS to stimulate pork production environment

All stakeholders highlighted (Figure 4) the high input costs, especially, feeding costs which were estimated to be around 73% of the total overheads. The lack of knowledge on intensive livestock farming in general and pork farming in particular was also highlighted as a challenge. Intensive farming systems require an in-depth knowledge base that is obtained over years of exposure.

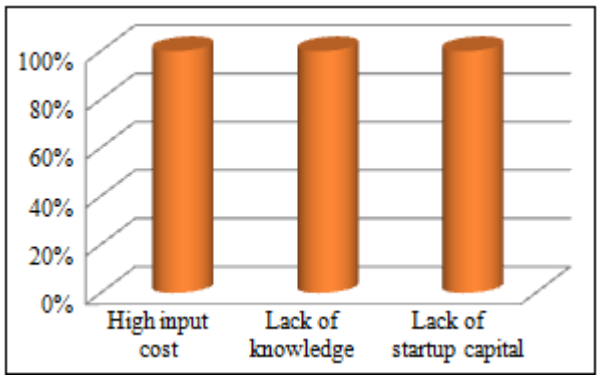

Figure 4: Challenges experienced by the PMSP

The last challenge raised was the lack of start-up capital. An intensive farming operation, such as pig farming requires vast amounts of capital to set up the breeding, fodder storage, handling and other livestock husbandry facilities.

6. Conclusion

The market overview of the Namibian pork market, before and after the PMSPS came into effect highlighted South Africa as Namibia's principle trading partner which enjoys economies of scale when it comes to pork production. This therefore means that they are able to produce pork at a larger scale and at a much lower cost. It is also important to note that South African producers obtain feed at a much lower cost, compared to the Namibian producers, who otherwise have to import feed. Coupled with the transportation costs involved, pork production in Namibia is a very costly exercise, therefore as reflected in the producer price.Before the protection was granted, retailers could import all of their pork requirements from South Africa, at a much lower cost than what they would otherwise purchase it locally. As a result, pork producers did not have a market where they could sell their products. Although Namibia is a net importer of pork, the Pork Market Share Promotion Scheme has created a level playing field, by ensuring that retailers purchase local pork products that are under the scheme, thus controlling the potential surge in cheap imported pork products into the country. Thus far, the PMSPS reaped the benefits as intended, whereby pig farmers have access to the market for their products and the overall production has increased.

7. Discussion and Recommendations

- The study recommends that producers expand their operations to include, processing This will help enable them to provide the preferred cuts that are currently not part of the scheme, which will reduce the dependency on imports. This recommendation is supported by Punjabi (2007) who observed that it has become clear worldwide that the most rapid growth in agriculture has been occurring on the part of post-production activities. This is being driven by growth of middle-income consumers even in low income countries and their demands for better-quality value-added products.
- Strategies need to be developed to increase cost effective local production as this will result in a reduced ceiling price in particular and lower consumer prices in general. This recommendation is supported by Brewin *et al.* (2009) whom examined the adoption of product and process innovations in the Canadian food processing industry. Their findings suggest that firms that conduct both process and product innovations in-house are better able to enjoy complementarities that arise in the discovery process. This will ensure an increase in local production which will match the local demand, reducing the dependency on imports.
- Policy members should consider amending the Green Scheme Policy to incorporate fodder production at all existing and new schemes. This will address the high feeding cost raised by farmers.
- Incorporate financial institutions in the scheme so as toassist with the extensive promotionof agricultural products and attract new entrants into the pork industry. Kibaara and Nyoro (2007) did a comparative analysis of emerging models of agricultural finance that have expanded the agricultural finance frontier to the smallholder farmers. They found that agricultural finance is very important because farming credit takes the highest proportion of rural credit needs. They also revealed that state run model of agricultural finance was the least sustainable while community-based models were the most likely drivers of change in rural agricultural finance.

8. Limitations and Suggestions for Future Studies

This study was constricted by several factors. The sensitive nature of pork farming in the country presented challenges in the process of collecting data as some participants were reluctant to reveal some critical data that could have allowed a comprehensive investigation of the problem under investigation. However, various participants were contacted who provided vital information for the study and this helped to off-set this challenge.The study only concentrates on the pork sector south of the Veterinary Cordon Fence and excludes the Northern Communal Areas, (NCA). Statistics reveal that a huge number of small-scale pork producers are found in the Ohangwena andOmusati regions that are not part of the main-stream value chain which could be having unique marketing situations prevailing in those regions.

In the light of the aforementioned, further studies could delve on:

- The policy of value addition, as per cabinet resolutions includes all livestock species, cattle, goats, sheep and pigs, to name a few. As the current study only focused on the pig farmers, it will be recommended to carry out a full-fledged study into the whole livestock sector with specific emphasis on the impact of the implementation of the policies.
- A study that will encompass a full value chain analysis of the pork industry including cost structures of different role players and other variables.
- A comparative study of the Namibian pork industry against that of competing countries.

References

[1] Baniak, A. &Dubina, I. (2014). Innovation analysis and game theory: a review. *Innovation*, 14, 2, 178-191, DOI: 10.5172/impp.2012.14.2.178
[2] Brown, L. H. (2009). The Economic Impact of Climate Change on Commercial Agriculture in Namibia. Dissertation Abstract, MSc. Environmental Economics, University of York, United Kingdom.
[3] Camerer, C. F. (2003). *Behavioral game theory: experiments in strategic direction.* Princeton University Press: Princeton, New Jersey.
[4] Creswell, J. W. (2014). Research design: qualitative, quantitative and mixed methods approaches. Thousand Oaks, CA: Sage Publications, Inc.
[5] Drucker, P. F. (1994). The theory of the business. *Harvard Business Review*, September/October Issue, pp. 95-106.
[6] Daly, P. and Walsh, J. (2010), "Drucker's theory of the business and organisations: challenging business assumptions", *Management Decision*, 48, 4, pp. 500-511. https://doi.org/10.1108/00251741011041319
[7] Gandhi, V., Kumar, G,.and Marsh. R (2001) Agroindustry for Rural and Small Farmer Development: Issues and Lessons from India: The International Food and Agribusiness Management ReviewVolume 2, Issues 3–4: 331-344
[8] Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions and emerging confluences. In N. K. Denzin & Y. S. Lincoln (Eds.), The Sage Handbook of Qualitative Research (4th ed.) (pp. 97128). Thousand Oaks, CA: Sage Publication, Inc.
[9] LPF (2008). Value Addition in the Namibian Meat Industry: A Livestock Producers Perspective. Meat Board, Windhoek: Namibia.
[10] LPF (2016). The Long-Term Marketing Strategy of Sheep: Submission by the Livestock Producers Forum to the Cabinet Standing Committee on Economics. Windhoek, Namibia.
[11] MAWF (2017). Meat and Meat Products Import and Export Regulations. Windhoek, Namibia.
[12] Mapiye, C., Muchenje, V, Chimonyo, M and Dzama, K (2007) Potential for value-addition of Nguni cattle products in the communal areas of South Africa: African Journal of African Research, 2(10):488-495
[13] McGlone J. J. (2013). The Future of Pork Production in the World: Towards Sustainable, Welfare-Positive Systems (Electronic version). *Animals 2013, 3*, 401-415.
[14] Meat Board of Namibia (2006) Strategic Options for Value Addition in Namibia, Windhoek: Namibia.
[15] Meat Board of Namibia (2008). Meat Board of Namibia website accessed at www.nammic.com.na.
[16] Meat Board of Namibia (2011). Meat Board of Namibia website, accessed at www.nammic.com.na.
[17] Meat Board of Namibia (2015). *Annual Report.* Windhoek, Namibia.
[18] Meat Board of Namibia (2017). Meat Chronicle. Windhoek, Namibia.
[19] MTI (2013). *Namibia Import and Export Control Act*. Windhoek, Namibia.
[20] Mushendami P., Biwa B. and Goamab M. (2008). Unleashing the Potential of the Agricultural Sector in Namibia. Retrieved May 15, 2017, from https://www.bon.com.na/CMSTemplates/Bon/Files/bon.com.na/a2/a2d7d502- f176-432e- 9fdd-3de89d3dbb92.pdf
[21] Namibia Manufacturing Association (2008). Value Addition in Namibia. Windhoek: Research Facilitation Services.
[22] Ngore,P.M (2010) Evaluation of Factors Influencing Value Addition by Butchery Agribusinesses in Igembe North District, Kenya
[23] NPC (2004). White Paper on Industrial Development. Windhoek, Namibia.
[24] NTA (2014). Sector Skills Plan: Agriculture Sector Namibia (2013 – 2017). Retrieved April 3, 2017, http://www.nta.com.na/wp-content/uploads/2013/07/Sector- Skills- Plan-Agricultural-Sector-of-Namibia-2013-2017-Final-Report.docx
[25] Kibaara, Betty & Nyoro, James K., (2008). "Expanding the Agricultural Finance Frontier: A Kenyan Case," 2007 Second International Conference, August 20-22, 2007, Accra, Ghana 52109, African Association of Agricultural Economists
[26] PWC (2012). *Namibia 2010 and beyond - Agriculture*. Retrieved April 2, 2012, from http://www.pwc.com/na/en/about us. Doing_business_in_namibia/index,html.
[27] Roux W. (2012, April 13). Infant Industry Protection: A Policy Tool to Enhance Namibia's Industrialization. *The Namibian.*
[28] Sarma. P.K,. Raha S.K., Mia,M.I.A and Jorgensen. (2016) Evaluation of Factors influencing to adopt beef Cattle Agribusiness Value Addition in selected areas of Bangladesh.Agri. Sci, 1(1): 67-76
[29] Scollan, N. Hocquette, J.F., Nuernberg, Dannesberger, D, Richardson. I and Moloney, A. Innovations in beef production systems that enhance the nutritional and health value of beef lipids and their relationship with meat quality: 52nd International Congress of Meat Science and Technology (52nd ICoMST) 13-18 August 2006 Dublin, Ireland
[30] Schutz, W. (2009). A Critical Analysis of the Namibian Value Addition Policy With Reference to the Small Stock Marketing Scheme. MBA Thesis, Maastricht School of Management. Maastricht. Netherlands.
[31] United States International Trade Commission (2014). *Pork and Swine Industry and Trade Summary.* Publication ITS-011. Washington, DC: U.S. International Trade Commission, September 2014. Retrieved April 26, 2017, from https://www.usitc.gov/publications/332/pork_and_swine_summary_its_11.pdf
[32] USDA Foreign Agriculture Services (2016, September 15). Global Agriculture Information Network Report: The South African Meat Market. Retrieved April 26, 2017, from https://gain.fas.usda.gov/Recent%20GAIN%20Publications/The%20South%2frican%20meat%20market_Pretor

ia_South%20Africa%20- %20Republic%20of_9-15-2015.pdf
[33] Van Wyk, D. N., & Treurnicht, N. (2012). A Quantitative Analysis of Supply Response in The Namibian Mutton Industry. South African Journal of Industrial Engineering, 23(1), 202- 215.
[34] Venter R. (2014). Competitiveness of the Pork Sector of Namibia. Windhoek, Namibia.
[35] World Bank (2012). Economic Development Report, 2012. World Bank, Washington DC.
[36] USDA (2018). Definition of value addition. Retrieved the 5 January 2018 from https://www.agmrc.org/business-development/getting-prepared/valueadded-agriculture/articles/usda-value-added-ag-definition/