

Halal Beef Handling in Nigeria: The Abattoir Workers' Perspective

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Abstract

Despite Nigeria's large Muslim population of 77.3 million citizens, very little research has been carried out in terms of addressing Halal needs in Nigeria. This study reviewed the perspective of abattoir workers' involved with Halal beef in two abattoirs in Abuja. The research made use of primary data gathered by conducting telephone interviews, using semi-structured interview questions. Although the National Agency for Food and Drugs Administration Control (NAFDAC) guidelines which govern Halal beef handling in Nigeria proved to have commonalities with those recommended by the Jurisdiction of Department of Islamic Development in Malaysia, (JAKIM), the findings revealed that there was a general lack of awareness about either of those guidelines amongst the abattoir workers interviewed. The abattoir workers that participated indicated that their perception of what constitutes Halal beef handling best practice was based on personal opinion. Thus, there is the need to create better awareness on the current guidelines for Halal beef handling provided by NAFDAC. Furthermore there is a need for Halal beef handling training for the abattoir workers in Nigeria. This was evidenced in the fact that additional Halal beef logistics activities such as packaging, storage and transportation were found to be carried out by third party logistics (3PLs) organizations which made it difficult to ascertain the Halal integrity of the Halal beef supply chain.

Keywords: Halal; Halal Beef; Halal Logistics; Halal Supply Chain; Nigerian Halal Beef;

1. INTRODUCTION

77.3 million people, representing circa 50% of Nigeria's population are Muslims (Pew Research Center 2010). Abuja, the Federal Capital Territory, accommodates about 1 million of the Muslim populace (National Bureau of Statistics, 2014). According to Adeshina (2013), the Minister of Agriculture, this has galvanized Nigeria to expand its capacity in Halal products in order to satisfy the Halal needs. This implies that there is a high demand for Halal beef and other Halal products in Nigeria, which indicates the need to satisfy the demand from Muslim consumers on Halal diet in accordance with Sharia, as well as non-Muslim consumers, who recognize the health benefits Halal food can deliver. As there is presently no Halal regulatory organization in Nigeria, this research reviewed the current guidelines in place for Halal beef handling in Nigerian abattoirs as stipulated by the National Agency for Food and Drugs

Administration Control (NAFDAC) to ascertain whether the guidelines provided were consistent with those of JAKIM. This qualitative study rested on the perspectives of 10 abattoirs staff with in 2 Nigerian abattoirs in Abuja.

The need to investigate awareness on the practices for Halal beef handling in Nigerian abattoirs prompted this research which will explore whether the current guidelines in place for Halal beef handling in Nigeria share commonalities with those provided by the Jurisdiction of Department of Islamic Development in Malaysia (JAKIM), the pertinent regulatory body. The current practices of the Halal beef industry will also be examined due to the requirement to more fully understand practices in terms of the wider Halal beef supply chain; this in turn will determine whether cross contamination risks prevail within Halal beef logistics activities.

This study examines Halal beef handlers' awareness of and perception on Halal beef logistics. Halal beef production in Nigeria is based on trust, in the sense that Muslims are believed to dominate the beef industry because they are Northerners of Hausas and Fulani heritage, who are Muslim tribesman strongly associated with cattle rearing. It is assumed that they would have slaughtered the cattle in Allah's name as prescribed by the Holy Quran and it renders the beef Halal safe for consumption according to Sharia principles. However wider supply chain issues should also be considered.

2. LITERATURE REVIEW

2.1 *Implications for Halal Beef in Nigeria*

The concept of halal is fundamental to Muslims; the Holy Quran requires Muslims to eat only halal food and where there is any doubt as to the source of the food being Halal, then it is recommended to stay away from such food (Al-Qaradawi, 2007; Zakaria, 2008). According to Islamic law, adhering strictly to the teachings of the Quran and the Sunnah (Prophetic tradition) as regards consuming only Halal food is very important to Muslims, as they believe that it is part of their responsibility to God (Doi, 2007; Abdul et al., 2009).

The global Halal market is growing and is estimated to be worth about US\$580 billion with the Halal food sector making up about 16% of the earnings; with Halal food demand growing by about 7% yearly (Zulfakar et al., 2012). The growth of the industry is a result of the spread of Islam, which is the fastest growing religion worldwide (Ambali and Bakar, 2014). The demand for Halal produce is related to a belief that Halal food is healthier, safer and tastier, which is appealing to both Muslims and non-Muslim consumers alike (Burgmann, 2007). The Nigerian Halal beef industry has great potential for becoming a major Halal hub, with the current market growth of 4% annually (Adesina, 2013). Thus, an understanding of the perception of Halal beef handlers towards Halal beef production and Halal supply chain activities in Nigerian abattoirs could help the industry fulfil the needs of Halal beef consumers.

2.2 *Halal Certification and Guidelines in General*

The International Halal Integrity Alliance (IHIA) (2010) reported that there are over 122 Halal beef certifying organizations across the world and they include government and non-governmental organizations, as well as Islamic societies that control the Halal food industry. This implies that the preponderance of guidelines governing the world's Halal beef industry has the potential to lead to confusion as to what represents globally accepted standardized Halal beef production and Halal supply chain requirements.

Qualitative research on Halal certification has raised issues regarding Halal logistics and supply chain integrity (Talib and Johan, 2012). Syazwan et al., (2013, p.4) furthered stated that *'the lack of a standardized Halal guideline is one of the major issues that poses constant threat to the Halal food industry including Halal logistics. The absence of a worldwide Halal certification such as a universal Halal logo will result into greater difficulties in maintaining Halal integrity throughout the supply chain'*. They suggested the solution was a universally accepted Halal standard guideline, supported by a recognized Halal logo, that would reduce doubts and increase trust in Halal beef products.

Shafie and Othman (2006) called for a universal Halal logo to signify Halal products from source to packaging because it proves the integrity of food merchandise as being safe and clean for Halal consumers. They recommended labelling Halal beef products with Halal logos, as customers perceived logos to possess more credibility than alternatives, such as those certified by the International Standard Organization (ISO). Farouk et al., (2006) said that the use of Halal logos on products guided Halal consumers and helped them avoid beef products which do not come from a trusted source.

JAKIM is charged with the responsibility of regulating and certifying Halal products in Malaysia. Their guidelines adopted rules in accordance with Sharia principles and adhere to the following requirements:

- The beef must be free from non-Halal substances, which includes animals that were not slaughtered by invoking the name of Allah or as prescribed by Sharia principles.
- The beef must be free from all products that are considered '*Najis*', which means unclean as ordained by Sharia law.
- The beef must be considered safe for consumption and not harmful to the body.
- The processing should be carried out using dedicated handling equipment free from contamination by things considered '*Najis*' in line with Sharia law.
- The beef should not contain any derivative not permitted according to Sharia and during other logistics activities such as packaging, storage and transportation, the beef should be physically separated from non-Halal beef that is considered not to have met the above stated guidelines or anything decreed as '*Najis*' according to Sharia law.

Studies conducted into Halal beef certification integrity within the European Halal beef market showed that the Malaysian Halal beef certification guidelines were being used as the basis for measuring best practices in the industry (Lever and Miele, 2012). The growth of the European Halal beef industry can be correlated with the increase of Muslim immigrants who have raised questions about Halal standardization guidelines in the industry (Bonne et al., 2007). Research carried out investigating issues of Halal beef certification guidelines in Germany and France argued that the lack of a standard Halal certification guideline across the European Union (EU) renders the industry vulnerable to corrupt practices (Fischer 2008, 2009). He further posits that the introduction of government controlled Halal beef certification guidelines in Malaysia by JAKIM helped to curb corrupt practices.

Historically there were concerns regarding unlawful practices surrounding Halal certification and the implementation of Halal guidelines in Malaysia (Talib et al., 2008, Zakaria, 2008). This shows that despite Malaysia being seen as the leading player in all things Halal, there are still opportunities for improvement regarding the implementation of the Halal certification in achieving more effective practices globally. Equally, some beef producers (albeit generic beef and not Halal orientated) have unfortunately engaged in unethical practices. An example of this can be found in the scandal of horsemeat being used in the preparation of what were alleged to be 100% pure beef burgers in the UK (Abbot & Coles, 2013).

2.3 *Halal Certification and Guidelines in Nigeria*

There is an absence of a dedicated Halal beef regulatory body in Nigeria which poses a challenge because, in effect, there is no nationally recognized regulatory agency directly responsible for controlling the Halal beef industry (Bello et al., 2013). This leaves Halal beef handlers in Nigerian abattoirs with the ability to adhere to perspectives and personal interpretations of what makes their practices Halal. There are currently 33 countries with internationally certified Halal regulatory organizations. However Nigeria is not amongst these. The responsibility of regulating the Halal beef consumed in Nigeria lies on a general regulatory body NAFDAC that controls all consumable products, both Halal and non-Halal, coming into the country. Their guidelines for food processing in Nigeria, (which covers Halal beef processing), are contained within the provisions of Act Cap F33, LFN: 2004 and should satisfy the following conditions (NAFDAC, 2014):

- All forms of food processing, which includes animal slaughtering and processing, carried out in Nigeria, imported or exported must be duly inspected to be safe and certified by NAFDAC.
- Qualified personnel with adequate experience and education must carry out the food processing.
- The plant and facility where the processing is to be carried out should be adequately constructed to allow easy operations as applicable to the type of processing and must be spacious for orderliness, as well as easy cleaning and maintenance.
- Separate storage rooms should be provided for the food products that require unique storage conditions, which include cold rooms for frozen foods.
- The processing section must be made of materials that can be cleaned and disinfected easily in order to ensure that the processed food remain safe for consumption.
- The processing equipment should be such that is designed and maintained to reduce or eliminate the risk of cross contamination as a result of food particle build-up or dirt that can contaminate the product.
- The packaging materials to be used, as well as raw materials to be used in the food processing must be obtained from certified vendors and should be of the required quality to avoid product contamination.
- The distribution and transportation of products should be carried out in such a manner that prevents the deterioration of the product quality. Also, contamination risks and spoilage should be minimized in order to ensure that customers still get quality products at delivery destinations.
- All required measures and techniques in terms of adequate hygiene and measures should be applied to ensure that all forms of contamination risks are avoided.

Despite NAFDAC's guidelines for controlling the country's food industry, Nigeria is unwilling to enforce regulations; predominantly believed to be because of corrupt practices. For example, in the Transparent International Report, Nigeria ranks 6th in the world in relation to corrupt practices (Agbibo, 2013). Poor regulatory enforcement is not restricted to developing countries: for example the reports on horsemeat within UK beef burgers (Abbot & Coles 2013). Therefore poor regulatory implementation is a policy failure problem that can be regarded as a global challenge, rather than a particular country's weakness (Talib et al., 2008).

2.4 *JAKIM and NAFDAC guidelines compared*

Comparisons between NAFDAC's food processing guidelines and JAKIM's requirements for Halal beef production were conducted by Bello et al., (2008, 2011). They reported that, although the guidelines provided by NAFDAC fulfills all the safety requirements in producing Halal beef for the consumers, they

revealed that the practices in Nigerian abattoirs pose a major risk to the health of beef consumers in general. Earlier studies supported this by reporting questionable conditions within Nigerian abattoirs and noting that the conditions in the abattoirs there were unhygienic for any form of food processing and were a public health risk due to the diseased and contaminated beef (Olanike, 2002; Okoli et al., 2006). These poor practices were reported to be due to negligent abattoir supervision and that maintenance checks had been transferred to local council jurisdiction; unfortunately these bodies lacked the expertise and finance to properly enforce strict hygiene regulations (West, 2002; Bello et al., 2011). This resulted in the deterioration of standards in abattoirs in Nigeria and was seen to compromise the integrity of Halal beef as it could not be produced under such unhygienic conditions (Bello et al., 2013).

Bonne and Verbeke (2008) highlighted that each stage in the handling phase is crucial to ensuring Halal beef integrity is maintained throughout the supply chain. The stages ranged from the breeding the cattle, feeding them, ensuring that any medications issued were Halal proven and that the requisite slaughtering process was adhered to. They also reported that the animals' welfare is of utmost importance, both during and after slaughter. Slaughter itself, they reported, called for the use of a very sharp knife to ensure that the animals' pain was limited. Riaz and Chaudry (2004) stated that the slaughter person must be a sane adult with enough experience in such practice. They further pointed out that the storage, packaging, transportation and logistics activities must be conducted in Halal approved ways.

2.5 *Halal Logistics*

The concept of logistics involves the planning the flow and storage, as well as implementing and controlling the forward and reverse movement of goods and services between the point of production and consumption so as to satisfy consumer needs (Supply Chain Council, 2014). Bowersox et al., (2006, p.22) defined logistics as, '*the responsibility to design and administer systems to control movement and geographical positioning of raw materials, work-in-progress and finished inventories at the lowest total cost*'. It also involves strategically managing the movement of goods and services, raw material and related information flow through different marketing channels of organizations (Christopher, 2011). In recognition of these definitions, Halal logistics concerns the movement of Halal beef from the processing plant, (which in the case of this study is the abattoirs), through packaging, storage and transportation, to the point of display and being made available for consumer purchase, in a manner that maintains Halal integrity (Tieman, 2011). The importance of Halal logistics has been reinforced by studies from Bonne and Verbeke, (2008) and Alam and Sayuti, (2011). These showed that big players in the food industry were left with no choice other than to incorporate Halal requirements into their logistics operations. This is due to the global growth of demand for Halal products (Solsis, 2010). In efforts to meet the demand, more stringent regulations have been put in place as regards achieving Halal standards such as those from the IHIA, (2010) and Department of Standards Malaysia, (2010). However more initiatives need to be developed to ensure that logistics operations meet the required standard; provided these initiatives do not contradict Sharia principles (Al-Salem, 2009).

Tieman (2011) highlighted problems relating to Halal logistics, these included the lack of enforcement of guidelines by the Halal logistics regulatory bodies. This, in part, was attributed to the absence of an agreed Halal logistics standard. This, in turn, leads to contradictions on the part of Halal logistics service providers as to what requirements precisely meet the criteria to deliver a logistics service that maintains Halal integrity. Kamaruddin et al., (2012) argued that Halal logistics impacts upon consumer purchase decisions since those decisions are based on the prescription by Sharia law that only products with Halal integrity should be consumed, and all others avoided. This implies that if there is a perceived risk of cross

contamination in the handling, storing, packaging or transporting the Halal beef, then it should be rendered as unfit for Halal consumption.

2.5.1 Halal Beef Handling

There are certain risks for Halal beef from cross contamination during the product handling, which is part of logistical activities. Al Halaseh and Sundarakani (2012) stressed the importance of using different handling tools and equipment during Halal beef processing by workers in the abattoirs in their study of a Halal food supply chain. The integrity of the equipment should ensure that it too is free from contamination risks that can cause 'Najis'. In the context of Halal beef handling, it would mean that separate handling equipment such as knives, trays, pots, etc., should be used for Halal beef slaughter and preparation. Talib et al., (2010) emphasized that tools and equipment should not be shared in Halal and non-Halal beef production due to the possibility of jeopardizing Halal integrity.

2.5.2 Halal Beef Packaging

Halal beef packaging is another potential source of cross contamination risk. Concerns were raised over such things as the inclusion of porcine in plastic wrap and containers, or using fat-based animal lubricant in the content of producing paper-based packaging materials (Farouk et al., 2006). The usage of paper-based materials Halal beef packaging is considered a potential contaminant when direct contact with a non-halal substance would be made, which ultimately renders the Halal beef 'Najis' (Tieman, 2013). Of course it is possible for Halal beef producers to use other packaging materials that are deemed Halal in order to maintain the integrity (Talib et al., 2013).

2.5.3 Halal Beef Storage

Segregating Halal beef from non-halal beef by using a dedicated Halal warehouse is considered best practice to eliminate cross contamination risks (Riaz and Chaundry, 2004). Tieman (2013) recommended using separate Halal-only warehouses to prevent Halal beef cross contamination risk. However, it is uncommon to find the use of dedicated Halal warehouses in Nigeria's Halal beef industry (Bello et al., 2013): They reported that common practice involves the storage of Halal and non-Halal beef in the same facility in order to save the cost of building or renting separate warehouses, although they noted that efforts were made to allocate distinct spaces for each within the same storage facility.

2.5.4 Labelling Halal Products

The challenge of hidden ingredients in products and contact with materials such as porcine, can be addressed by Halal regulatory organizations through correct labelling of Halal products (Ambali & Bakar, 2014). Labelling Halal products could be a source of promoting Halal awareness and a recognized Halal logo on products would verify these products as safe for consumption. For example, in Malaysia, the use of Halal logo on products certified by JAKIM has helped to create and promote awareness of Halal beef products. Promoting Halal awareness posed a challenge to Halal beef producers and indirectly forced them to use the Halal logo on their products to reassure Halal beef consumers (Hussaini, 2003).

2.5.5 Halal Beef Transportation

Halal beef transportation requires segregation of Halal and non-Halal food products. Jaafar et al., (2011) postulated the transportation phase carried the highest risk to Halal beef products because this is where

cross contamination is most likely to occur. This is a major challenge to Halal logistics providers in the sense that, having performed their services effectively in compliance with Sharia laws, the Halal integrity of the product can still not be guaranteed when the transportation falls to the responsibility of another logistics service provider within the distribution chain (Syazwan et al., 2013). These risks can be contained if dedicated trucks for Halal beef are used throughout the transportation process (Tieman, 2011). Alternatively it is possible to use vehicles with multiple compartments for transporting Halal beef. This prevents contamination by using different storage compartments to preserve Halal integrity (Talib et al., 2010).

2.6 Sources of Halal Awareness

“Awareness” literally involves having an understanding of or being knowledgeable, even if only partially so, in the subject of interest. Awareness about a subject creates the base and forms a background upon which opinions are formed; albeit that opinions are subjective. The level of awareness depends on the quality of information available and access to such information (Randolph, 2003; Nizam, 2006).

Halal awareness could then be described as the level of understanding of contemporary issues about Halal and applying the knowledge gathered in forming a perception towards the subject (Aziz & Chok, 2013). Golnaz et al., (2010) described religion as a system through which people respond to what they believe is sacred and declared that Halal awareness is determined by a positive attitude. Every religion has certain practices peculiar to it that clearly indicates what is permissible for the followers of the religion and what is prohibited for the believers of the faith. In the case of Islam, it is permissible for Muslims to consume Halal foods and non-Halal foods are prohibited.

Schiffman and Kanuk (2007) reported that as a result of religious knowledge, purchasing and consumption attitude could be influenced, especially where strict guidelines exist. Thus, there is evidence that religious knowledge is a source of increasing awareness that could positively shape producers’ perspective on Halal beef logistics. Increasing awareness would help producers yield better quality Halal beef for the consumers. To further emphasize this, the Holy Quran and Hadith (teachings of the Prophet) have provided clear guidelines for Muslims as regards what is lawful and unlawful for them to do (Al-Qazwini, 2007). Therefore, it can be said that by being more aware of lawful and unlawful things as stated in the Holy Quran and Hadith, Halal beef producers would be obliged to ensure safe Halal beef for their consumers.

2.7 Literature Gap

Literature on Nigerian Halal food products was limited. Most literature on Halal beef logistics featured consumers’ perspective towards the Halal food industry while little research has been done on the producers’ perspective. According to Alam and Sayuti (2011), studies about Halal remain in an infancy stage, which still requires further exploration and more theory-driven research about the Halal food industry. Rajagopal et al., (2011) highlighted gaps in literature concerning Halal food products and the importance of raising awareness to help producers effectively create and market products.

3. RESEARCH METHODOLOGY

The research objective was to assess the current guidelines for Halal beef handling within Nigeria and ascertain if these guidelines shared commonalities with JAKIM’s Halal guidelines. The study also

explored the perspectives of Halal beef handlers in two Nigerian abattoirs in Abuja. Research can be conducted for the purposes of an exploratory, descriptive or an explanatory study (Walden, 2006). The purpose of this research was exploratory study to seek insight into Nigeria's Halal beef industry. According to Saunders et al., (2009, p. 139) '*an exploratory study is a valuable means of finding out what is happening; to seek new insights; to ask questions and to assess phenomena in a new light*'. Very few studies have been conducted on Halal logistics (Sekeran & Bougie, 2009; Talib et al., 2013).

This study applied purposive sampling as this was the most accessible form of participant. The participants for the preliminary interviews consisted of ten abattoir workers in Abuja and the findings of these interviews were further validated by two of the participants in further interviews. The data collected were obtained from primary sources, collected through telephone interviews. Telephone interviews have benefits, as well as disadvantages. The benefits include reducing issues surrounding travel, including accessibility and time constraints (Opdenakker, 2006). The disadvantages noted by Malhorta (2004) were the inability to see respondents' body language and the inability to assess the appropriateness of situation during the interview. This implies that the situation might not be conducive, thereby distracting the interviewee during the interview. Burke and Miller (2001) posit that technical issues could arise during the telephone conversation if network connectivity was poor. Therefore the researchers selected Abuja, the Federal Capital Territory, because the city has a reliable telecommunication infrastructure. The use of telephone interview as a research technique is a good source of qualitative data because it can be expressed in words (De Ruyter, 2006). The one-to-one interview was preferred because the researcher was able to control the interview and influence on the interviewee was minimized as there are no additional players to condition responses (Easterby-Smith, 2008).

Saunders et al. (2009) revealed certain factors that could hinder the quality of the data collected from the samples that were not randomly selected by the researcher. The factors include the possibility of biasness in the selection process by the Abattoirs, which questions the integrity of the respondents in providing honest answers during the interview. Malhotra (2004) also reported respondent may fear being reprimanded by management for giving information that could appear detrimental to the organization's image. According to Saunders et al., (2009, p. 157), '*validity of a data has to do with whether the findings of a study are really about what they appear to be*'. This implies that the findings of research should reflect the actual happenings.

The research makes use of a small sample size in relation to the total number of Halal beef handlers in Nigerian abattoirs. Therefore, validity of data in terms of generalizing is not possible but there is equally criticism of using large sample sizes as they may not be representative or allow for reflexivity (Bello et al., 2013). There are four major abattoirs registered under NAFDAC in Abuja. The term '*major abattoirs*' refer to '*the large and popular abattoirs in a state that are of a high socio-economic importance to the local community in terms of number of animals slaughtered and quantity of meat supplied to the area*' (Bello et al., 2013, p.2). Each abattoir presented five respondents. The respondents volunteered to take part in this research.

Data reliability can be questioned when researchers do not have control over the selection of respondents. Malhorta (2004) suggested that respondents could have been selected for reasons unknown to the researcher. Also, telephone conversations were not recorded so disallowed the possibility to re-listen for clarification (Opdenakker, 2006). The claim of bias selection of respondents is minimized because the respondents volunteered to take part in the interview, rather than being selected by the abattoir

management. The issue of misinterpretation of response due to the researcher's inability to record the conversation is also unlikely because the respondents were very patient during the interview and kindly obliged to provide further clarification where needed.

Reliability of findings are concerned with the result being the same even with the use of different research techniques for the data analysis (Saunders et al., 2009). The finding of research are reliable when similar conclusions are drawn from analyzing the data, which could be further tested by triangulation. Triangulation refers to the means of using two different research methods to collect data that is analyzed and produces similar results (Easterby-Smith, 2008). For this research, the triangulation test was simply selecting one respondent each from the two abattoirs and conducting an additional unscripted telephone interview to establish consensus on whether the earlier compiled responses were deemed consistent with general belief.

Reflexivity refers to issues of preconception about the research being carried out that can affect the outcome of the research findings (Sultana, 2007). Reflexivity involves being mindful of the entire research process, from data collection to interpretation by the researcher in avoiding preconceived opinions compromising the presentation of the research results (Al Hindi & Kawabata, 2002). This implies that regardless of the sample size, the findings of a research can be compromised due to misinterpretation of responses by a researcher in reflecting a personal judgment. Peake and Trotz (1999) argued that reflexivity can help the researcher in conducting a good research by encouraging more commitment and avoiding issues that influence the findings.

Consideration of ethical issues that could arise during a research is important and the method of access to the data used for the research. According to Mauthner et al., (2002), issues regarding ethical practices can change people's attitude towards research negatively if frequent malpractices are reported. The consent of the research participants was sought regarding their involvement in research (Burke & Miller, 2001).

4. RESULTS AND DATA ANALYSIS

The participants were asked 26 questions from which they were encouraged to provide as much additional comment as they wanted. Of the ten respondents eight were Muslim and two were Christian. The results were as follows:-

The respondents were asked what they perceived the Halal process to be in relation to slaughtering the cattle. Their answers included:

The animal should be slaughtered in the name of Allah and pork that is considered Haram in the Quran should be avoided. The handling should be done in a hygienic manner (Respondent 3):

It is about animals that are slaughtered mentioning the name of Allah. They are also processed in a clean manner that is safe for human health of consumers (Respondent 8)

This indicated that there was a shared belief about what constituted Halal practices in terms of slaughtering and handling. The respondents shared a common perception that halal beef involved slaughtering of animals in Allah's name and that the handling be carried out in a hygienic manner. They also agreed that only animals considered Halal were cows, goats, sheep and camels, and that these were slaughtered by knife as stunning was not practiced in the abattoirs being investigated.

The respondents were asked if they had ever heard either of NAFDAC's beef handling guidelines or those from JAKIM with respect to Halal beef handling. None of the respondents had ever heard of JAKIM

before and with regards to NAFDAC the responses were more akin to generalisms, as evidenced by the following answers:

They give feedback on improving standards (Respondent 1)

They recommend good practices (Respondent 6)

The respondents were aware of NAFDAC's visits to inspect the abattoirs, which were reported to happen on both a planned and impromptu basis and whilst they know of no penalties, with half the recipients suggesting there was regular feedback being provided by NAFDAC on how to improve their current practice. However the other half of the group interviewed said they were not sure if NAFDAC provided feedback.

The research tried to establish what was understood by the respondents with regard to the linkage between the slaughtering process and integrity in the Halal supply chain. The abattoir workers' were asked about the process involved in relation to Halal beef transportation. Their answers incorporated the following responses:

Since all the beef processed here are considered Halal, they do not use dedicated trucks (Respondent 1)

They use of cooling vans for transporting the Halal beef, which maintains hygienic conditions (Respondent 5)

It involves using cooling vans to transport the Halal beef to keep them from bacteria (Respondent 7)

This denoted that cool and hygienic vans were assumed to be all that was required.

The respondents were asked what they knew about the cattle handling and source before the animals entered the abattoir and the following are examples of the answers:

They come from the Northern part of the country and Saharan African counties like Sudan, Mali and even Libya (Respondent 4)

They are brought in from the North where they are reared (Respondent 5).

We have known the suppliers in the North where the animals come from (Respondent 8)

This illustrated that whilst many believed that the slaughtered animals came from the Northern part of the country; some cattle were believed to have come from further afield and there was nothing known about how they had been reared or kept before entering the abattoir.

The respondents reported on the process of handling and slaughtering the animals in the abattoirs. Respondent 2 proffered the following comment which was broadly similar to the others given: *Yes, the equipment is shared and they are properly cleaned before used again*. It was evident that the respondent linked Halal intrinsically to cleanliness; and this process involved washing both the animals and the slaughtering slabs before the actual slaughtering and cutting takes place. The following responses were indicative of their answers that showed there was an inherent belief that everything that came in to the abattoir was Halal irrespective of its origin or handling:

No, because all the animals processed here are Halal (Respondent 2)

They all confirmed that the handling equipment was shared within the abattoir because the belief was that all the animals slaughtered there were considered Halal.

On the subject of how the beef was stored after slaughter, the following elaborations were provided:

We don't need to store because most of the Halal beef processed here is either consumed fresh or bought by third party logistics (3PL) providers who package them (Respondent 1)

No, we don't store because electricity is poor with respect to operating a cold storage room in the abattoir (Respondent 4)

Nine of the ten respondents said that packaging was tackled off-site by government regulated third party logistics service providers, (3PLs). Respondent 4 added: *No, but sometimes we use nylon packaging bags in loading them into the vans.*

None of the respondents had any involvement with Halal logos, the storage or transportation process; these activities were handled by government regulated 3PLs.

In relation to whether or not the abattoir workers had received formal training on Halal beef handling, it was clear none of them had received any formal instruction.

No, we gained experience over time working in the abattoir (Respondent 1)

No, I learn from experience and my religious knowledge about Halal (Respondent 7)

Finally, the respondents were asked to comment on what they recommended would help tighten Halal beef production practices in Nigerian abattoirs. The following advice was offered:

I think corruption should be controlled and reduced to ensure that rules are properly enforced (Respondent 1)

There are already measures in place to ensure that the Halal beef processed here is safe for consumption. However, the corrupt practices should be curbed for the measures to be effective (Respondent 2)

There should be better infrastructures in place such as regular water supply, adequate power supply, more cooling vans, mechanized lines for slaughtering, etc.(Respondent 3)

There should be training of the stakeholders on the principles of Halal beef handling, as well as training of health workers on HACCP (Hazard analysis and critical control points) (Respondent 4)

The corrupt practices should be reduced to allow for effective enforcement of rules (Respondent 5) *Any improvement would largely depend on the government by creating a dedicated Halal regulatory organization that will deal with Halal regulation and enforcement issues* (Respondent 6)

For any improvement to be noticed, the problem of corruption in the country generally must be first addressed (Respondent 7)

The provision of adequate infrastructural facilities would help improve the standard of operation in the abattoir (Respondent 8)

Corruption should be dealt with for any measure to be effective (Respondent 9)

Training of all the stakeholders in the Nigerian beef industry would help a great deal, as well as access to quality information on Halal issues (Respondent 10).

The reliability of data was tested by selecting one respondent each from the two abattoirs to be further interviewed and discuss the findings from the interview phase. Whilst these participants confirmed that the findings were an accurate reflection of their perception about their industry practices they did not provide additional commentary beyond that confirmation.

5. DISCUSSIONS

The lack of a global standardized Halal beef certification guideline is the predominant challenge faced by the Halal beef industry (Shafie & Othman 2006; Fischer 2008, 2009; Talib & Johan 2012; Syazwan et al. 2013). JAKIM's Halal beef guidelines represents the benchmark for best practices in the global Halal beef industry (Bonne et al., 2009; Havinga 2011; Lever and Miele 2012). Nonetheless, there were cases reported of unlawful practices in Malaysia regarding Halal beef production (Talib et al., 2008; Zakaria

2008) Farouk et al., (2006) argued that it is the lack of robust practices by Halal beef producers themselves that is the main challenge to the industry.

The Halal beef handlers within this study knew nothing about JAKIM's Halal beef guidelines and knew very little about their own national code from NAFDAC. Indeed all practices were learned on-the-job and in the perception that self-knowledge of the religious code was sufficient to provide Halal integrity. Halal beef handlers followed their personal perspective as to what guidelines to follow regarding Halal beef handling. The absence of a dedicated Halal beef regulatory body in Nigeria was reported to be the major challenge to the Nigerian Halal beef industry (Tieman, 2011, 2013, Bello et al., 2008, 2011). The provision of a dedicated Halal beef regulatory body in Nigeria should be considered as it would help direct Halal beef handlers by providing a standard Halal beef guideline for them to follow. Many scholars reported that the primary challenge facing the Nigerian Halal beef industry is poor enforcement of regulations as a result of high level of corruption (Olanike, 2002; West, 2002; Agbibo, 2013, 2014, Okoli et al., 2006). Corruption plays a vital role in this study, with all respondents seeing corrupt practices as the largest impediment to progress. Corruption should be tackled by strict enforcement of guidelines and regulations with severe penalties for defaulters.

Risks to Halal beef logistics activities include; animal breeding, hygienic operations in abattoirs, as well as Halal beef handling, storage, packaging and transportation (Bonn & Verbeke, 2008; Riaz & Chaudry, 2004). The respondents in this study believed that cooling vans were, in themselves, sufficient to ensure Halal beef maintained its integrity from the abattoir to the markets. Handling tools and equipment were also reported to be shared within the abattoirs in the belief that all animals being slaughtered there were considered to be Halal in accordance with the Sharia principle. Most of the Halal beef logistics activities were reported to be handled by 3PLs which made it impossible to determine the Halal integrity of the final product from this study alone.

The increase in the level of awareness among Halal beef handlers in Nigerian abattoirs could help increase Halal beef integrity (Randolph, 2003; Nizam, 2006; Aziz & Chok, 2013). The findings in this study indicated that the respondents' personal perception of what constituted Halal beef handling guidelines was unchallenged by a training regime. This is consistent with earlier research (Anderson et al., 2004; Patnoad, 2005). This illustrates the need to implement adequate Halal beef handling training to improve on current practices.

6. CONCLUSION

There is an absence of a dedicated Halal beef regulatory organization in Nigeria and in consequence personal perception of Halal beef is the self-governing moral compass.

Despite NAFDAC's provision of guidelines for regulating all food processing, which includes Halal beef processing, Halal beef handlers appeared unaware of these guidelines. NAFDAC's present guidelines share commonalities with JAKIM's but these similarities are only seen on paper. A Halal logo should be adopted in Nigeria by NAFDAC by setting up a dedicated Halal department to certify and issue a Halal logo for Halal beef products. The adoption could prove to be an important source of promoting Halal awareness for Halal beef producers in encouraging safe and hygienic standards, not only in the course of processing the Halal beef in the abattoirs, but across the entire Halal logistics activities.

In practice, the Halal beef handling process in Nigeria revealed that slaughtering takes place in the abattoirs. Other activities, such as the storage, packaging and transportation, which are part of JAKIM's Halal beef handling requirements, are carried out by other organizations. As a result the Halal beef supply chain cannot be attested to and the lack of awareness of Halal beef handling requirement suggests that the tacit beliefs rather than implicit regulatory presence are governing factors therein. Future research should be carried out to further investigate these gaps and should involve perspectives from all supply chain players to assess the farm to fork logistical activities within Nigerian Halal beef production.

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