



UTILIZATION OF MODERN ANIMAL PROCESSING FACILITIES AMONG BUTCHERS IN AMOSUN ABATTOIR, AKINYELE LOCAL GOVERNMENT AREA OF OYO STATE.

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(Received 21 January 2022; Revision Accepted 11 November 2022)

ABSTRACT

To ensure good public health standard, the quality of management of abattoirs in the aspect of compliance to standard practice of meat inspection, sanitation and utilisation of modern facilities is fundamental. This study therefore examined utilization of modern animal processing facilities among butchers at Amosun abattoir in Akinyele Local Government Area of Oyo State. Simple random sampling was used to select 53% of the butchers out of 212 who use modern processing facilities to give total number of 112 respondents. Data were analysed using descriptive and inferential statistics such as frequency, percentage and Pearson Product Moment Correlation (PPMC). The result showed that all the respondents were male (100%) and married (90.1%). Also, 81.98% were below 50 years, 45% of them had primary school education and practiced Islamic religion (75.70%). The result further revealed that majority (70.3%) had low utilisation of modern processing facilities as well as unfavourable attitude (55.0%). Majority (64.0%) of the respondents identified some of the constraints to utilisation of modern processing facilities to be high. PPMC showed that there is significant relationship between utilisation of modern processing facilities and attitude ($r = 0.221$, $p = 0.02$). Also, constraints and respondents attitude toward utilisation of modern processing facilities was significantly related ($r = -0.257$, $p = 0.007$). It is therefore recommended that government should organize seminar and programmes to create awareness on the importance of utilizing modern animal processing facilities.

KEYWORDS: Utilisation, butchers, abattoir, facilities

INTRODUCTION

In modern meat procedures, most of the processing steps are usually mechanized. Modern meat processing would be impossible without the utilization of specialized equipment, which are now available for small scale operation (FSA, 2012). The meat machines are designed for long lasting, high functionality, simple cleaning, highest hygiene, safety and easily operation. The modern meat processing machine includes top quality tool like knives, clippers,

blades, shears, hand saws and some others mechanical equipment that are designed to give the best productivity for beef, goat, lamb slaughter and other eating animals (FSA, 2015). To ensure good public health standard, the quality of management of abattoirs and slaughter slabs, particularly, the adherence to standard practice of meat inspection and sanitation is fundamental in order to tackle the problem of poor sanitation in Nigeria as a result of improper planning of abattoirs, increased number of illegal abattoirs, inadequate provision of facilities

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such as portable water, inadequate road networks institutional regulations, enforcement and monitoring as well as corrupt by the supervisors of abattoirs (Nafanda et al, 2012 and Adeolu et al, 2015). The benefits are human health improvement, animal disease control, processing and retail net value, reduced spoilage, fraud and improved environmental hygiene.

However, poor hygiene practices among abattoir workers due to inadequate facilities have impact on the health and quality of life (Fasanmi et al, 2018). Lapses in operations of abattoir by butchers are linked to use of obsolete facilities with poor maintenance and inadequate supervision (Kaliu and Ali-Uchechikwu, 2019). The slaughtering and processing facilities in some abattoirs are inadequate as there are no sewage or waste disposal systems, adequate portable water supplies and refrigeration. Because of the high demand for meat within the state, there is the need to design an abattoir which can efficiently handle the process of meat production in a mechanized and hygienic way. This is geared towards increasing the production of meat thereby generating revenue and employment for the state as well as ensuring proper sanitation in meat processing.

Nigeria lacks standard in the production and processing of meat, most abattoirs are operated in open places infested with flies and maggots, with flies infested tables and faulty scales for measuring meat for consumers. The meat is often conveyed from abattoirs to other places with dirty wheelbarrows and rickety vehicles which constitute health hazard to the consumers. Another problem associated with slaughterhouses is in the area of waste management which are non-existing. This ugly situation has raised a lot of health concerns and worry among Nigerians who daily patronize and consume large chunk of meat produced from these slaughter slabs. Meat consumed in Nigeria falls short of international standard. Apart from the filthy and dirty environment, the animals being slaughtered daily in these abattoirs are not thoroughly inspected and examined by qualified and registered veterinarians. These are the reasons why modern animal processing technology has to be resulted to by the butchers and these leads to this research in the Akinyele Abattoir. The general objective of this study is to investigate the utilization

of modern animal processing facilities among butchers at Amosun abattoir in Akinyele Local Government Area of Oyo State. The specific objectives of this study are to:

1. describe the socio economic characteristics of the respondents in the study area.
2. assess extent of utilization of the modern animal processing facilities among the respondents in the study area.
3. determine the attitude of respondents toward utilization of the modern animal processing facilities in the study area.
4. identify respondents' major constraints militating against the utilization of the modern animal processing facilities in the study area.

METHODOLOGY

Akinyele is a Local Government area in Oyo State, Nigeria. It is one of the eleven Local Governments that make up Ibadan metropolis. Its headquarters are at Moniya. Akinyele Local Government Area was created in 1976 and it shares boundaries with Afijio Local Government to the North, Lagelu Local Government Area to east, Ido Local Government Area to the west and Ibadan North Local Government Areas to the South. It occupies a land area of 464.892 square kilometers with a population density of 516 persons per square kilometer (NPC, 2006 and Atoloye et al, 2015).

The target populations of the study were the butchers within the Akinyele Abattoir in Oyo State, Nigeria. Simple random sampling was used to select 53% of the butchers out of 212 who use modern processing technologies to give total number of 112 respondents.

Primary and secondary sources were used to provide the data for this study. The primary data were gathered through well-structured questionnaire. The secondary data were sourced from books, journals, research reports and other relevant materials. Descriptive statistics in the form of tables, frequencies and percentage distribution were used to describe the specific objective such as the Socio-economic characteristics that include sex, age, and marital status, educational status, income while PPMC and Chi-square analysis were used to analyse the hypotheses.

RESULTS AND DISCUSSIONS**TABLE 4. 1: Socio-economic characteristics of the respondents.**

VARIABLES	FREQUENCY(F)	PERCENTAGE (%)
Sex		
Male	111	100
Female	0	0
Total	111	100
Marital Status		
Single	9	8.10
Married	100	90.10
Divorced	2	1.80
Total	111	100
Age		
20-29	20	18.02
30-39	36	32.43
40-49	35	31.53
50-59	17	15.32
60& Above	3	2.70
Total	111	100
Education		
Primary Education	50	45.00
Secondary Education	35	31.50
Tertiary Education	8	7.20
No Formal Education	18	16.20
Total	111	100
Tribe		
Yoruba	108	97.30
Igbo	3	2.70
Total	111	100
Religion		
Christianity	27	24.30
Islam	84	75.70
Total	111	100
Membership of Association		
Yes	108	97.30
No	3	2.70
Total	111	100

Table 4.1 showed the results of the socio-economic characteristics of the respondents in the study area. It shows that 100% of the respondents are male as a constant factor who engaged in animal slaughtering in the abattoir. This is in agreement with the work of Okpala et al. (2021) who found that 100% male were engaged in abattoir and had primary school certificate as highest education attainment. Also, majority (90.1%) of respondents were married while 8.1% were single. This indicates that majority of the respondents were family men who have a lot of responsibilities to fulfil. This agrees with the report of Akinbile (2007) who stated that marriage confers responsibility, which send signal that they are matured, versatile and even responsible.

Table 4.1 further showed that 32.4% respondents were within the age range of 30 -39 years, followed by the 40 – 49 years with 31.53%. The age range of 20 – 29 years was 18.02%, age range of 50-59 years was 15.32% and 60 years and above had the lowest percentage of 2.7%. This showed that most of the respondents were matured and have independence

to take decision on own particularly those pertaining to their livelihood activities. This finding is line with the work of Olowoporoku (2016) who found that most of the respondents were above 40 years.

Table 4.1 also showed that 45% of respondents possessed primary school leaving certificate and 31.5% of respondents had secondary school certificate. Respondents with tertiary education qualification constituted 7.20% while 16.20% of the respondents had no formal education. Educational achievement is quite impressive among the respondents. This implies that the majority of the respondents were educated. This is in support of Oladele (2005) who found out that exposure of people to education will increased their ability to adopt changes. Also, Olowoporoku (2016) found that most of the abbatoir workers had up to secondary education. Table 4.1 showed that overwhelming majority 97.3% of respondents were Yoruba's and 22.7% were Igbo's. This indicated that Yoruba's dominated the study area as it falls in the South West region of Nigeria.

Furthermore, Table 4.1 showed that Muslims constituted 75.7% of respondents and 24.3% of the respondents were Christians. This implies that the study area was dominated by muslims. This indicates that all processed meat in the abattoir and can be consumed by both religious practitioners nationwide.

Table 4.1 showed that 97.3% of respondents belonged to an association while 2.7% were not in any association. This implies that majority of the respondents could share a common ideal.

Table 4.2 Utilization of modern animal processing facilities

Modern animal processing method	Daily	Twice	Weekly	Not regular	Not in use
Stunning machine	0(0)	0(0)	0(0)	0(0)	111(100)
Bleeding machine	0(0)	0(0)	0(0)	0(0)	111(100)
Effluent management	0(0)	0(0)	0(0)	0(0)	111(100)
Skinning machine	0(0)	0(0)	0(0)	0(0)	111(100)
Evisceration and viscera inspection	0(0)	0(0)	0(0)	0(0)	111(100)
Splitting machine	0(0)	0(0)	0(0)	0(0)	111(100)
Transportation	110(99.1)	0(0)	0(0)	1(0.9)	0(0)
Market	110(99.1)	0(0)	0(0)	1(0.9)	0(0)
Laboratory	31(27.9)	0(0)	0(0)	3(2.7)	77(69.4)
Security	111(100)	0(0)	0(0)	0(0)	0(0)
Lairage	110(99.1)	1(0.9)	0(0)	0(0)	0(0)
Cold room	109(98.2)	0(0)	1(0.9)	0(0)	1(0.9)
Washing equipment	110(99.1)	1(0.9)	0(0)	0(0)	0(0)S

The result as presented in Table 4.2 revealed that most of the respondents daily utilized the modern animal facilities which included transportation (99.1%), market (99.1%), security (99.1%) , cold room (98.2%) and washing equipment (99.1%). The result further indicated that all of the respondents did not used facilities such as stunning machine, bleeding machine, effluent management, skinning machine, evisceration and splitting machine , skinning machine, evisceration and viscera inspection, splitting machine, and effluent management. This means that on daily bases

majority of the respondents utilized transportation system, laboratory, security, lairage, market, cold room, solid waste, washing equipment. This indicates that most of the processing operations were manually done by the respondents while those that could not be replaced by human labour were operated by the used of machine while security is unavoidable by all respondents. This deviates from the findings of Fasanmi et al. (2018) who reported that lairage and cold room facilities were poorly utilized in the abattoir.

Categorization of respondents based on utilization of modern animal processing facilities

Variable	Frequency	Percentage (%)
High	33	29.7
Low	78	70.3

Mean = 25.0

In summary, the result showed that 29.7% of the respondents have high utilization of modern animal processing facilities while 70.3% had low level of utilization of modern animal processing facilities in

the study area. This corroborates the findings of Lawal et al. (2013) who found that most of the facilities in abattoir were not functional.

Table 4.3: Respondents’ attitude toward the usage of modern animal processing facilities

Attitudinal statement	SA	A	D	SD
Use of modern animal processing technologies are not costly	19(17.1)	42(37.8)	33(29.7)	17(15.3)
Spare parts of modern animal processing are not easily available	52(46.8)	56(50.5)	2(1.8)	1(0.9)
Operations of modern animal processing technologies are not easy to carry out.	0(0.0)	14(12.6)	50(45.0)	47(42.3)
Use of modern processing technology is not better than traditional method	35(31.5)	52(46.8)	0(0.0)	1(0.9)
In processing of meat, modern animal processing technologies is faster	54(48.8)	56(50.5)	0(0.0)	1(0.9)
Modern processing technologies is hygienic	72(64.9)	39(35.1)	0(0.0)	0(0.0)
Modern animal processing method save time	79(71.2)	32(28.8)	0(0.0)	0(0.0)
Modern processing reduce cost of labor	49(44.1)	62(55.9)	0(0.0)	0(0.0)
In operation injuries are sustained.	21(18.9)	82(73.9)	6(5.4)	2(1.8)
Modern processing increase consumer demand	4(3.6)	9(8.1)	68(61.3)	30(27.0)
Modern animal processing method are make meat available at all time for consumer need	5(4.5)	2(1.8)	55(49.5)	49(44.1)
Modern processing is environmental friendly	24(21.6)	76(68.5)	5(4.5)	6(5.4)
Modern processing require skillful labor	11(9.9)	93(83.8)	4(3.6)	3(3.7)
Modern meat processing are usually stop when there is breakdown in the machine	5(4.5)	9(8.1)	32(28.8)	65(58.6)
Modern processing method meat is very costly than traditional method	46(41.4)	57(51.4)	4(3.6)	4(3.6)

Table 4.3 showed that 37.8% of the respondents agreed that the use of modern animal processing technologies is not costly while 15.3% strongly disagreed. Also, 50.5% of the respondents agreed that spare part of modern animal processing are not easily available while 0.9% strongly disagreed. Majority of respondents strongly disagreed (42.3%) and disagreed (45%) that operation of modern animal processing are not easy to carry out, while 12.6% agreed. Some of the respondents (46.8%) disagreed that the use of modern animal processing is not better than traditional method while 17.1% strongly agreed. Respondents agreed (50.5%) and strongly agreed (48.6%) that modern animal processing is faster while 0.9% strongly disagreed. 64.9% and 35.1% of respondents strongly agreed and agreed, respectively that modern animal processing technologies is hygienic respectively. Also, 71.2% strongly agreed and 28.7% agreed that modern animal processing technology saves time. 55.9% and 44.1% of the respondents agreed and strongly agreed, respectively that modern animal processing reduces the cost of labour. Most (73%) of the respondents agreed and 18.9% strongly agreed that under modern operations, injuries are sustained, 1.8% respondents strongly disagreed with this opinion. This implies that the usage of modern

animal processing technologies reduces cost of labour totally. Furthermore, as 61.3% and 27.0% of respondents disagreed and strongly disagreed that modern processing increase consumer demand, respectively 3.6% of them strongly disagreed. Whereas 49.5% and 44.1% of the respondents (disagreed and strongly disagreed, respectively) that modern animal processing method make meat available at all time for consumer need, 4.5% strongly disagreed. Some of the respondents also agreed (68.5%) and strongly agreed (21.6%) that modern processing is environmental friendly others strongly disagreed (5.4%). Results also revealed that 58.6% and 28.8% of the respondents strongly agreed and agreed, respectively that modern method of processing usually stop when there is breakdown in the machine, 4.5% of the respondent strongly disagreed. Some of the respondents disagreed (51.4%) and strongly disagreed (41.4%) that modern processing method meat is very costly than traditional method, others strongly agreed (3.6%). This indicates that the modern animal processing facilities is not more costly than traditional method and could be cost effective (required a smaller amount than the cost of processing an animal with the traditional method).

Categorization of respondents based on their attitude towards the used of modern animal processing facilities

Variable	Frequency	Percentage (%)
Minimally favorable	61	55.0
Highly favorable	50	45.0

Mean=41.88

In summary, the result showed that 55% of the respondents had minimally favourable attitude towards the used of modern animal processing facilities while 45% had highly favourable attitude towards the use of modern animal processing facilities in the study area.

Table 4.4 Constraints to use modern animal processing facilities

S/N	Constraints	Severe Constraint	Mild Constraint	Not a Constraint
1	Illiteracy	79(71.2)	31(27.9)	1(0.9)
2	High cost of modern processing	35(31.5)	48(43.2)	28(25.2)
3	Unfavorable Government policy	34(30.6)	52(46.8)	25(22.5)
4	Lack of adequate technical know-how	5(4.5)	19(17.1)	87(78.4)
5	Fluctuation of electricity	13(11.7)	69(62.2)	29(26.1)
6	Inadequate of veterinary personnel	1(0.9)	8(7.2)	102(91.9)
7	Religious barrier	16(14.4)	76(68.5)	19(17.1)
8	Culture barrier	6(5.4)	98(88.3)	7(6.3)
9	Lack of adequate information on modern processing technologies.	1(0.9)	23(20.7)	87(78.4)
10	Inadequate transportation from the abattoir site to market in the city.	13(11.7)	86(77.5)	12(10.8)
11	In adequate waste management	3(2.7)	7(6.3)	101(91.0)
12	Lack of adequate of standard animal processing	1(0.9)	3(2.7)	107(96.4)

Table 4.4 showed the constraints to the used of modern animal processing technologies faced by the respondents. Majority (71.2%) of the respondents considered illiteracy as a severe constraint to use of modern facilities. Also, most of them identified fluctuation of electricity (62.2%), religious barrier (68.5%), cultural barrier (88.3%) and inadequate transportation from abattoir to market (77.5%) as mild constraints to utilization of modern abattoir facilities. On the contrary, inadequate technical

know-how (78.4%), inadequate veterinary personnel (91.9%), inadequate information (78.4%) and inadequate waste management (91.0%) were not considered as constraints to utilization of modern facilities by the majority of the respondents. This is an indication that high level of constraint affects the level of utilization of modern facilities in the abattoir. The implication is that the reduced constraints to utilization will encourage users to use the facilities regularly.

Table 4.5 Categorization of respondents based on constraints to the use of modern animal processing facilities

Variable	Frequency	Percentage (%)
High	71	64.0
Low	40	36.0

Mean=8.41

In summary, the result showed that 64% of the respondents face high constraints to the used of modern animal processing technologies while 36%

face low constraints of modern animal processing facilities in the study area.

HYPOTHESIS

Table 4.6 PPMC showing the relationship between utilization and attitude of respondent

Variable		p-value	Decision
Utilization	0.221	0.02	S
And			
Attitude			

The PPMC on the Table 4.6 and its p value (<0.05) indicates that there is a very fairly strong positive and significant relationship between utilization attitudes of respondent towards the use of modern animal processing technologies in the study area. Therefore, the alternative hypothesis is accepted while the null hypothesis is rejected. This indicates that the more

favourable the attitude toward utilization of modern animal processing technologies the higher the level of utilization. This is an indication that favourable attitude of the respondents towards the use of abattoir modern facilities will influence high level of utilisation of the facilities.

Table 4.7 PPMC showing the relationship between constraint and attitude of respondent toward the use of modern animal processing technologies.

Variable	PPMC	p-value	Decision
Constraint	-0.257	0.007	S
And			
Attitude			

The PPMC on the table 4.7 and its p value (<0.05) indicates that there is an inverse significant relationship between constraints and attitude towards the use of modern animal processing technologies among butchers in the study area. Therefore, the alternative hypothesis is accepted while the null hypothesis is rejected. This is an indication that the more the respondents have favourable attitude towards the use of modern animal processing technologies the lower the constraints to use of modern animal processing technologies. The implication is that high level of constraint will affect the respondents' attitude towards utilization of modern animal processing technologies.

- Government at all levels should organize seminar and program to create awareness on the importance of utilizing modern animal processing technologies.

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CONCLUSION

Based on the findings, it is hereby concluded that majority of the butchers in the study area were male, married and had primary education which implied that most of them are illiterate. This study affirmed that there is little or no utilization of modern meat processing technology in Amosun abattoir. Despite the availability of these technology due to: illiteracy-lack of technical know how, religious barrier - noncompliance with slaughtering method, fear of job loss to machine, cost of using the modern technology is higher than the traditional method of animal processing and the most important reason lack of adequate knowledge about the importance of using modern animal processing technology

RECOMMENDATION

- Relevant stakeholders should enact laws and regulations that will make noncompliance with utilization of modern animal processing technology a punishable offence and provide good transporting facilities for the transportation of meat from the abattoir to the market.

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