Survey on the Implementation, Regulation, and Certification of Halal Meat Slaughtering Principles at Selected Export Abattoirs in Ethiopia

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ABSTRACT

Halal certification plays a crucial role in assuring the quality, authenticity, and religious acceptability of meat products for Muslim consumers. However, its effectiveness in Ethiopia is challenged by limited awareness among producers, misuse of halal logos, and inconsistent adherence to halal slaughtering principles, which together have diminished consumer confidence. Therefore, this study examines the implementation, regulation, and certification of halal meat slaughtering practices in selected export abattoirs in Ethiopia. It was conducted between December 2023 and July 2024 in Modjo and Bishoftu, using a mixed-methods approach across seven randomly selected abattoirs. Data were collected through interviews, structured questionnaires, observations, and document analysis involving 36 stakeholders. The findings revealed full compliance (100%) with core halal requirements; however, notable gaps were observed in animal welfare (80%), top management training (64.3%), and the absence of both a Halal Quality Management System and Halal Assurance System (0%). As certification is overseen by the Oromia Islamic Affairs Supreme Council, the study recommends regulatory reforms, structured training, and system institutionalization to enhance compliance and export competitiveness.

Keywords: Animal welfare, Ethiopia, Export abattoirs, Halal certification

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Introduction

Halal, an Arabic term meaning permissible, encompasses a broad range of lawful actions in Islamic teachings, including food consumption. Halal meat must be slaughtered by a sane Muslim, invoking the name of Allah, and ensuring the animal is healthy and treated with compassion before slaughter. Additionally, the concept of '*Halalan Tayyiban'* extends to wholesome and hygienic production processes ((GSO), 2015). Globally, countries such as Malaysia, Indonesia, and the United Arab Emirates have established strong regulatory and institutional frameworks for halal certification. These include dedicated halal authorities, standardized certification processes, and government-backed guidelines (Benzertiha et al., 2018).

The global demand for halal meat has been steadily increasing due to the growing Muslim population and a rising interest in food quality, traceability, and ethical slaughtering practices. Halal meat, defined by Islamic dietary laws, must be prepared under strict religious guidelines to be considered permissible for consumption. In this context, Ethiopia, a country with significant livestock resources and a strategic geographic position, has emerged as a potential player in the international halal meat market. The global halal food market is expanding rapidly, valued at over USD 3 trillion, with the meat sector contributing approximately USD 600 billion. Muslim-minority countries are increasingly participating in this market; for example, nearly 95% of New Zealand's sheep meat exports are halal (Prayuda et al., 2023).

The Global Islamic Economy Report 2020/21 ranks Malaysia first in halal food, finance, pharmaceuticals, cosmetics, and tourism. Saudi Arabia leads in Islamic finance, while Indonesia is recognized for its immense halal market potential. The top five meat exporters to OIC countries are Brazil, India, the USA, Russia, and Argentina (Syazwan et al., 2018). On the import side, Saudi Arabia, Malaysia, the UAE, Indonesia, and Egypt represent 42% of the global halal meat market.

Ethiopia's meat export volume increased from 7,916 tons in 1999/2000 to 19,104.7 tons in 2018/2019, generating USD 195.17 million in export revenue—about 8.5% of total national exports Halal meat exports from Ethiopia are primarily regulated under the GSO standards by entities such as the Emirates International Authority Council and the Saudi Food and Drug Authority. Although two internationally accredited halal certification bodies exist in Ethiopia, currently only the Oromia Region Islamic Affairs Supreme Council Halal Certification Department (ORIASC-HCB) is actively certifying halal meat. This body has over 25 years of experience and has received recognition from multiple international halal accreditation centers (Mamo, 2019).

Statement of the Problem

Although Ethiopia has made progress in establishing halal-certified abattoirs for export, the sector faces critical gaps in regulatory clarity, certification consistency, and stakeholder coordination. The absence of a unified national halal

policy, inadequate training for slaughtermen and auditors, poor animal welfare conditions, and limited consumer awareness undermine the integrity and marketability of Ethiopian halal meat. These challenges raise concerns about product authenticity, consumer trust, and international competitiveness. Moreover, cases involving fraudulent halal labels and non-compliance with halal standards have weakened consumer trust(Spear & El-rahim, 2021). Although there is extensive literature on halal-related topics, empirical studies focusing on the implementation of halal standards in specific sectors such as food production, logistics, and slaughterhouse operations remain limited (Syazwan et al., 2018).

Concerns about halal authenticity have been exacerbated by incidents such as the discovery of pork DNA in supposedly halal food, or the unauthorized serving of halal food to non-Muslims (Siti Zanariah Yusoff, 2017). Investigations in Europe, for instance, found mislabeled meat in Turkish lamb sandwiches some containing pork indicating significant lapses in regulation and oversight. In another case, eight containers of meat from the Dutch company Zwanenberg were destroyed in Egypt after they were found to contain pig bone powder and beef fat making the product non-halal ((GSO), 2015). Although halal logos are now widely used, concerns remain about the credibility of certification systems, particularly in non-Muslim-majority countries (Mohd Aliff Abdul Majid et al.,2015).

Even in Muslim-majority nations like Malaysia, where the government has made strong regulatory efforts, non-compliance by food manufacturers remains a persistent issue (Hassan & Hanif, 2017). In Ethiopia, despite its rich livestock resources and proximity to halal markets in the Middle East, the absence of a strong regulatory framework and national policy on halal meat production limits the sector's potential (Mamo, 2019).

Currently, there is no formal proclamation or comprehensive legal framework governing halal food production in Ethiopia. This regulatory gap undermines consumer confidence and poses challenges for certification bodies. Additionally, Gulf countries have repeatedly banned Ethiopian meat exports due to non-compliance with halal standards. For example, in 2017 and again in 2023, several Ethiopian abattoirs were shut down by Gulf auditors for violations, resulting in significant economic losses, despite these challenges, there is a notable lack of published research on the implementation, certification, and regulation of halal meat slaughtering principles in Ethiopian export abattoirs. A deeper understanding of these areas is crucial for enhancing consumer trust and improving Ethiopia's position in the global halal meat market.

Significance of the Study

The importance of this study is three fold: First, it assesses the operational performance of halal slaughtering principles in Ethiopia's export abattoirs, helping to identify existing opportunities and bottlenecks affecting the sector's contribution to foreign earnings. Second, the findings will provide actionable insights for policymakers, meat exporters, and other stakeholders seeking to strengthen the halal

meat value chain and improve its role in national economic development. Finally, this study will serve as a baseline resource for researchers and academics interested in further investigating halal meat production, regulation, and certification in Ethiopia and similar contexts.

Research Objectives

This research aims to:

1. Assess the current state of halal meat slaughtering principles, regulation, and certification in selected Ethiopian export abattoirs.
2. Compare Ethiopian halal certification practices with international standards.
3. Identify challenges faced in implementing halal slaughtering and certification processes.
4. Explore consumer perceptions of halal meat in Ethiopia.
5. Propose policy and institutional recommendations for improving halal certification and regulation systems.

Literature Review

i. Comparative Analysis of Halal Certification Standards

The halal certification landscape varies widely across countries. Malaysia's JAKIM and Indonesia's BPJPH are renowned for their robust, government-backed systems. These bodies have developed integrated frameworks with clear procedures, scientific inputs, and Sharia oversight (Rashid & Bojei, 2018). In contrast, Ethiopia lacks a central regulatory body overseeing halal certification, resulting in discrepancies among certifiers. Ethiopian certifiers, such as ORISAC-HCB, often rely on interpretations of Islamic guidelines without structured scientific or quality management frameworks. This limits international recognition and may restrict market access. Differences in documentation, inspection frequency, and auditor expertise also affect export competitiveness. Harmonizing standards with Gulf countries' requirements (e.g., GSO 2055-1, 2055-2, and 993) is crucial for market access.

ii. Impact of Regulatory Framework on Halal Meat Quality

The current Ethiopian regulatory framework governing meat exports focuses primarily on veterinary and sanitary standards, with minimal emphasis on halal requirements. The Ethiopian Food and Drug Authority (EFDA) and Ministry of Agriculture provide oversight on food safety but do not regulate halal compliance. This regulatory gap affects meat quality, especially where halal compliance intersects with animal welfare, hygienic handling, and traceability. Case studies from abattoirs in Modjo and Bishoftu show variable implementation of halal principles, especially concerning rest periods before slaughter, proper invocation of Allah's name, and post-slaughter handling. Strengthening regulatory coordination

between religious councils, government bodies, and exporters is essential for ensuring both food safety and halal integrity (Mamo, 2019).

iii. Consumer Awareness and Perception of Halal Meat

Consumer understanding of halal principles varies widely in Ethiopia. A survey conducted in Addis Ababa and Dire Dawa found that while most Muslim consumers value halal meat, many are unaware of the certification process or how to verify halal authenticity. This lack of awareness undermines informed purchasing and weakens demand for certified halal products. Marketing strategies must bridge this gap by educating consumers on the significance of halal logos, the role of certifying bodies, and the ethical, hygienic benefits of halal meat. Trust in the certification body is a major determinant of consumer confidence, which suggests a need for transparency in certification and audit processes (Ahmed & Akbaba, 2023).

iv. Challenges in Implementing Halal Slaughtering Practices

The implementation of halal principles in Ethiopian abattoirs is challenged by multiple factors. These include limited training for slaughtermen, insufficient Sharia oversight, poor infrastructure, and lack of traceability systems. Interviews with plant managers revealed that logistical constraints, such as inadequate transportation and rest areas for animals, also affect compliance with halal standards. Furthermore, top management in many abattoirs lacks comprehensive understanding of halal assurance systems like Plan-Do-Check-Act (PDCA) cycles, ISO 22000, or GMP-based halal frameworks. Without consistent training and oversight, halal compliance becomes inconsistent, potentially undermining certification credibility (Ahmed & Akbaba, 2023).

v. Economic Impact of Halal Meat Exportation

Halal meat export contributes significantly to Ethiopia's foreign exchange earnings, particularly from markets in the Middle East. However, inconsistent certification and regulatory practices can jeopardize market access (Ahmed & Akbaba, 2023).

Methodology

i. Methodological Considerations

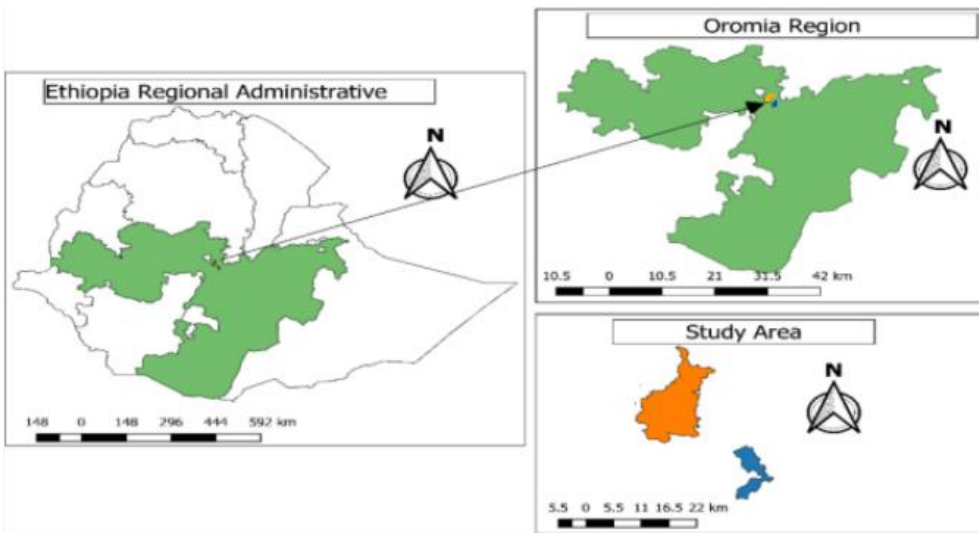
This thesis employed a combination of: Qualitative methods: Interviews with abattoir managers, halal certifiers, and religious authorities. Quantitative methods: Surveys assessing consumer perceptions in urban centers. Case studies: In-depth analysis of practices in selected export abattoirs.

ii. Study Area

The present study was carried out in Bishoftu City and Modjo Town. This area was selected based upon the occurrence or availability of 10 (83.3%) out of 12 export abattoirs and standardized carcass export facilities are found in two sites.

Bishoftu City is situated at a height of 1880 meters above sea level and at latitude and longitude of 8°44′37.69 N, 38°59′19.28 E respectively. It is located at 45 km Southeast of Addis Ababa. The city has bimodal patterns with an average rainfall of 866 mm^3. The average annual lowest and highest temperatures are 8.5°C and 30.7°C, respectively, and with a relative humidity of 61.3% (Abunna F et al., 2018). Modjo Town settlement is 1790 meters above sea level and is situated at altitude and longitude of 8°35'N and 39°7'E respectively. The town is located at 70 km Southeast of Addis Ababa. The annual rainfall of the area varies between 846 and 1,131 mm^3. The average annual lowest and highest temperatures vary between 10.6-11.6 °C and 21-27 °C, respectively (Eshetu, 2021).

Figure 1: *Map of Ethiopia Depicting the study areas (Bishoftu and Modjo cities).*
Source: (Alemu et al., 2022).



Notes: Oromia, Ethiopia regional admin, Modjo Town, Bishoftu City.

iii. Study Population

For this study, the study population were all twelve (12) export abattoirs found in Ethiopia.

iv. Study Design and Period

A cross-sectional study design was conducted, from December 2023 to July 2024 to assess halal meat slaughtering principles implementation, its regulation, and certification at selected export abattoirs in Ethiopia.

v. Sample Size and Sampling Techniques

There are twelve (12) export abattoirs found in Ethiopia; of which only eleven (11) export abattoirs were functional and included in the study. Frigorific Boran Food Plc. is not functional and excluded from sampling frame. Therefore, for this study seven (7) export abattoirs were selected by simple random sampling method. Because of limited resource and time it was impossible to do in all export abattoirs. So to reduce variability between abattoir and increase power of precision seven export abattoirs were selected for this study. The selected abattoirs were, Maereg Agro-Industry plc. Abyssinia Slaughter house Service and Al-Nujum Slaughter House from (Bishoftu City), Luna Export Slaughter House Plc., Organic Export Abattoir, Aksheker Ethiopian casing and Halal Food Industry from (Modjo Town).

vi. Data Collection Method and Procedures

The data were collected by interviews, close ended questionnaires, document reviews and direct observation using checklist prepared from Gulf standard organization (GSO, 993/2015, GSO, 2055-1/2015) and from other parallel standard used for halal slaughter house. The study covered a total of 36 sample respondents working in two sites, Bishoftu City and Modjo Town in seven different abattoirs. There were only one system manager and one halal supervisor in one abattoir, which are totally 14 (7 halal supervisors and 7 system managers) respondents from seven selected export abattoirs, which all were included in the study and selected purposively. The prepared close ended questionaries' (self-administered) were distributed to halal supervisors and system managers through direct contact to assess implementation of halal slaughtering principles during production process, establishment of halal assurance system and competency of halal supervisors. Document such as internal halal committee minutes, internal audit records and daily slaughtering records for halal supervisors, and halal policy, management review and other system manager's record were also reviewed to verify or support their response.

One (1) key respondent was selected purposively from halal certification to know about certification procedures of halal meat and export abattoirs, regulation mechanism, and the role of halal certification bodies for ensuring implementing practice at export through self- administered questionnaire's, document reviews and semi-structured interviews. There was only one plant manager at one export abattoir, which are totally 7 plant managers from seven selected export abattoirs and all were included in the study to assess the critical factors influencing implementation at export abattoirs by interviews. There are 3 slaughtermen at one export abattoir, which are totally 21 slaughtermen were found seven selected export abattoirs.

For this study 2 slaughtermen from each abattoirs a total of 14 respondents from selected seven export abattoirs were included in the study by simple random sampling method. Interviews and direct observation researcher during operation

were used to assess their knowledge and skill during halal slaughtering. To ensure the slaughterhouse compliance toward Halal Certification procedures, the interviews and self-administered questionaries' session were focused on specific criteria such as halal quality system, Halal management team or establishment of the internal halal Committee minutes, cleanliness and sanitation, waste management, facilities provided for Muslim slaughtermen and halal supervisors employees, and documentation such regarding daily record-keeping, Halal certificate, certificate of the supply or purchase of raw materials, and other quality certificates such as Veterinary Health Mark (VHM), Good Manufacturing Practices (GMP), Hazard Analysis Critical Control Point (HACCP) and International Organization for Standardization (ISO).

In addition, direct observation of researcher was also involved to check and verify real activity going on at selected export abattoirs during production process by using observation checklists. Observation method was used to evaluate and verify the competency of personnel working in the slaughterhouse such as halal supervisors and halal slaughter men. The abattoirs personnel presented brief overview of how halal is processed. Observation investigation involved in Halal documentation, and the entire processing operation starts from animals receiving, checking the status of animal welfare at holding pen and lairage, Halal slaughter, evisceration, Halal inspection, cooling and chilling, packaging, storage, transportation and distribution.

vii. Data Processing and Analysis

The raw data collected were summarized and coded to check questionnaires for completeness, consistency, errors and omissions. Demographic data from respondents were analyzed by descriptive statistic. The data obtained from key informant of halal certification body, halal supervisors, system managers, plant managers, and halal slaughter men were analyzed by descriptive statistic such as frequency and percentage using table supported with simple narrative to get the status of halal slaughtering principles implementation at export abattoirs and to understand the efficient certification procedures and regulation. In order to undertake the required analysis the study employed data analysis tools like Microsoft excel.

viii. Ethical Consideration

Before the data collection process, the study protocol was started by taking supporting letters written from college of Veterinary Medicine and the letter was provided to abattoirs representative for allowance of study protocol and to take response from selected respondents. Because, Institutional Review Board of Haramaya University College of Veterinary Medicine is not functional. After approval was assured from abattoirs representatives', information about the study was explained to the participants, including the procedures, potential risks, and benefit of the study. The respondents was informed of their rights to refuse or decline participation in the study at any time and refusing to participate in the study

will not affect them. All participants gave their informed, voluntary, written, and signed agreement prior to the study. Participant's confidentiality of information were assured by excluding names and identifiers in the questionnaires.

Results

i. Over All Status of Halal Slaughtering Principles at Selected Abattoirs

As shown in table 18 below, the overall status of halal slaughtering principles practices at selected export abattoirs resulted from interviews, self-administered questionnaires, documents reviews, and onsite observations, shows that the general condition of abattoirs, animals feed, requirement for animal, stunning not practiced, slaughtering process, slaughtering tools, storage and transportation, labelling and packaging, halal slaughtering records, halal slaughtermen, halal supervisors and company halal management team are 100% compliance or fulfil the criteria. Meanwhile, other variables such as animal's handling procedure before slaughter, top management training, halal quality management Plan Do Check Act or (PDCA Cycle**),** and halal assurance system are 80%, 64.3%, 0%, and 0% compliance, respectively.

Regarding the general condition of abattoirs, all general criteria for one abattoirs were met in selected seven abattoirs. But two abattoirs, Halal Food Plc. and Abyssinia Slaughter House Service, were not consistent with principles of GMP, GHP, and HACCP in comparison with others abattoirs and are not found in state of good repair and maintenance. They were low in hygienic and implementation of food safety measures. All 7(100%) abattoirs assured the purity or halalness of their raw material and ingredient used in abattoirs through the following ways: by checking Material Safety Data Sheet for any ingredient used in slaughter house and asking halal certificate if available for newly purchased raw materials. Mostly stockinet have food-grade certificates, railways lubricants was food oils or food-grade grease, and the ink was alcohol-free and food-grade ink were used.

All 7(100%) abattoirs were dedicated for halal animals slaughtering only. All 7(100%) abattoirs feed their animals' only dry grass which is halal fodder. In all 7(100%) abattoirs, only GSO-standard allowed halal animal were slaughtered. Depending upon the five criteria listed by OIE to assess the welfare of animals, only four were met, which shows 80% welfare was maintained. Because the other criteria, like transportation truck used for animals, did not met the standard. Sometimes in all selected abattoirs, enough rest was not given for animals. In all 7(100%) abattoirs, slaughtering process was practiced or done according to sharia principles, in which ante mortem was inspected by competent authority, the animals were laid on the left side and directed toward qibla on hygienic table and slaughtered by competent and ORIASC-HCB certified halal slaughter person by invoking the name of Allah Bismillah Allahu Akber and using halal slaughtering tools. The animals did not see each other during slaughtering, and separated by the wall and curtain. Regarding human resource, all 7(100%) abattoirs have competent, certified,

and enough slaughtermen up to three per abattoirs, a competent halal supervisors, and had assigned internal halal committee team gathered from different department to follow and monitor the halal slaughter activity. Regarding factors that influence the implementation of halal slaughtering principles, all 7(100%) system managers responded that, top management commitment, training and attribute of employees, Information capacity and exposure, Policy and procedures, are influential factors that directly affect the implementation of halal certification.

5(71.4%) system managers responded that their company implement Halal certification for the sake of the growing Halal market. The remaining 2(28.6%) system managers responded that their company implement Halal certification to maintain the Halal integrity for the consumer. According to the response of all 7(100%) plant managers, there is no challenge requirement in halal certification to implement. But the absence of enough socialization and the absence of enough training for owner and top managements, as well as low availability of raw ingredients in market of country, complicated the process. All 7(100%) plant managers responded that consumer pressured as to use certain halal requirements like traceability of product, quality concern, all halal supply chain from animals' reception up to dispatch should be halal, and implement halal assurance system.

The findings of the present study shown that ORISAC-HCB is a competent body and good at regulation and monitoring of halal food premise. ORISAC-HCB describe the competency level and qualifications of HCB employees and the halal audit team according criteria described in the (ORIASC-HCB-14, 17, 40) internal document. But, ORISAC-HCB lacks enough technical, sharia scientific committee and sharia expert manpower for certification process and audit of export abattoirs. 10(71.4%) of top management responded that quality service given by ORISAC-HCB is good, and 4(28.6%) is no good. ORIASC-HCB only certifies company those complies with international standard regulations in term of food safety.

Table 1: *Overal l status of Halal Slaughtering principles results at selected export abattoirs in Ethiopia.*

S. No	Halal critical control procedures	Compliance		Non-compliance		comment or description
		Freq	Percent	Freq	Percent	
1	Raw material and ingredient	7	100	0	0	Halal species Halal certificate MSDS
2	Animals feed	7	100	0	0	Dry grass
3	Animal welfare	4	80	1	20	Truck for transporting animals is not fit. Sometimes rest is not given for animals
4	Stunning is not practiced	7	100	0	0	ORIASC-HCB prohibited any types

						of stunning
5	Storage and Transportation	7	100	0	0	Only Halal transportation and storage system present
6	Labelling and Packaging	7	100	0	0	Packed with Stockinet Full labeling on tag, and put in stomach, ORIASC-HCB stamp on leg muscles, supported with halal and veterinary certificate.
7	Halal slaughtering Record	7	100	0	0	Internal halal committee minutes, training records, slaughtering records and dispatch records
8	Halal assurance system	0	0	7	100	Only halal committee minutes was available
9	Are the halal Critical Control Points (HCCP) in the production process identified?	7	100	0	0	But the halal critical control point are communicated through working procedure and all abattoirs not equally understand HCCP
10	Halal Slaughter men n= 14	14	100	0	0	Competent and have good skill of slaughtering
11	Halal Supervisors	7	100	0	0	Competent and Good in their quality of supervising the whole process
12	Top management training n=14	9	64.3	5	35.7	There is prominent gap in training among top management and owners of abattoirs
13	Company have halal management team	7	100	0	0	
14	Halal PDCA cycle	0	0	7	100	

Figure 2: *Overall activities of Halal Supervisors and researcher sample photos.*

Descriptions: (A) attended online training at (Luna Export Abattoir), (B) Halal supervisors' document review at halal supervisor office (organic export abattoir) and (C) photo of researcher during observation done at Al-nujum Export Slaughter House and (D) QIBLA direction indicator, (E) Bleeding and (F) Supervisor Postmortem examination at (Aksheker export abattoir).

Discussion

The findings of the present study show that ORISAC-HCB assured the competency levels and qualifications of HCB employees and the halal audit team, which were perceived as important for ensuring halal food compliance at industry level, according to documents (ORIASC-HCB-14, 17, 40) described in the internal document. This finding comply with ISO/IEC 17021-1:2015 and GSO 2055-2, 2021 Standard, Part 2: General Requirements for Halal Certification Bodies clause, clause 7. Resource requirements, sub-clause 7.1 (Aida & Rahman, 2021). Competence of management and personnel. According to present study, the overall status of halal slaughtering principles practices in selected export abattoirs resulted from interview, self-administered questionnaires, document reviews and onsite observation showed that, all slaughtering process from animals slaughtering to transportation scored 100% or full compliance or fulfill the criteria. Meanwhile, the others variables or criteria such as animal's welfare, top management training, halal quality management Plan Do Check Act or (PDCA Cycle**)**, and halal assurance system, are 80%, 64.3%, 0%, and 0% compliance, respectively. The present study is greater than the study done by (Ahmed & Akbaba, 2023) reported that, among percentage of halalan tayyiba practices, only processing or manufacturing scored 100% or full compliance. But, the others variables such as raw material; packaging and labelling;

storage; and distribution and transportation, they were 95.4%, 98.5%, 98.8%, and 97.8%, respectively.

Conclusion and Recommendations

The expansion of halal meat abattoirs in Ethiopia has had a positive impact on exports, job creation, and the country's economic growth. However, there is still a significant challenge in ensuring the authenticity of halal products, primarily due to the limited verification efforts by consumers. To address this, a comprehensive and efficient halal certification system is essential. This system would ensure compliance with GSO 2055-1, GSO 2055-2, and GSO 993 slaughtering principles, while also safeguarding food safety, protecting consumer rights, and enhancing confidence in halal products. The presence of a legitimate halal logo is also crucial in stimulating demand for halal products in international markets. However, the study identifies a gap in the Ethiopian regulatory framework, particularly the absence of a clear government definition of halal food. Despite halal slaughtering practices being followed by competent slaughtermen under supervision in export abattoirs, the lack of a clear regulatory framework creates uncertainty regarding halal product standards. Furthermore, the study found that ORISAC-HCB, the body responsible for halal certification, lacks sufficient technical staff and Sharia experts to adequately oversee certification and auditing processes. This gap hampers the effectiveness of the certification system, leading to inconsistent enforcement of halal standards across export abattoirs. Additionally, there is limited compliance with essential elements such as animal welfare, halal assurance systems, and adequate training for staff involved in the halal production process. Factors like top management commitment, employee training, and clear policy procedures are crucial to the successful implementation of halal certification. The study also highlighted key challenges that hinder the development of a robust halal certification system, including inadequate animal welfare practices, a lack of research and promotion of halal standards, limited awareness of halal requirements among producers, and the absence of comprehensive regulations governing halal meat production in Ethiopia. Based on the above conclusions, the following key recommendations are proposed to improve the halal certification and meat production system in Ethiopia:

- Establish clear regulations: The government should define halal food and establish comprehensive regulations for halal meat production and slaughtering processes. This would provide a solid legal framework for the certification system and ensure consistency across the industry.
- Enhance ORISAC-HCB capacity: The halal certification body (ORISAC-HCB) should be provided with sufficient technical personnel, Sharia experts, and resources to improve the certification process and audit the operations of export abattoirs effectively.

- Implement a Halal Assurance System (HAS): Abattoirs should develop and implement a Halal Assurance System (HAS) to ensure ongoing compliance with halal standards, alongside continuous training for owners, management, and staff.
- Promote animal welfare: The industry should adopt better animal welfare practices, ensuring that animal transportation and handling meet international standards, such as GSO and OIE guidelines.
- Strengthen halal training programs: A comprehensive training program should be established for all employees involved in the halal meat production process, from slaughtermen to management, to ensure a clear understanding of halal principles and compliance.
- Develop a halal market strategy: The government, in collaboration with industry stakeholders, should invest in promoting the halal meat sector, increasing public awareness, and encouraging research on halal standards and certification practices.
- Introduce halal quality management systems: Abattoirs should establish halal quality management systems (such as Plan-Do-Check-Act) in line with international quality standards like GMP, GHP, and HACCP, to ensure consistency and quality in halal meat production.
- Encourage self-sufficiency in animal sourcing: Abattoirs should consider establishing their own ranches to improve the quality and traceability of animals, thus meeting customer demand for high-quality halal products.
- Promote further research on the meat supply chain from animal sources to market systems, and invest in advertising and research on the halal meat industry in Ethiopia.

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