



Evaluation of the Implementation of Good Manufacturing Practice at the Slaughterhouse in Kolaka Regency

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ABSTRACT. Meat safety is a major component of food safety that impacts public health, so supervision and protection are needed. This study aims to analyze the level of Good Manufacturing Practices (GMP) implementation in providing safe, healthy, intact, and halal (ASUH) food in Kolaka Regency. The data collected focuses on the mechanism of beef production, the stages of receiving live cattle to becoming carcasses, and the evaluation of the level of compliance with the principles of GMP and halal control points (HCPs) in the beef production process. The method of determining respondents was non-probability sampling with incidental sampling techniques. The results showed that the implementation of GMP in general and the HCPs checklist at the Kolaka Regency slaughterhouse had values of 32.72 and 37.3, which are inadequate to meet GMP standards. The Kolaka Regency government must strive to build slaughterhouses with facilities and infrastructure that meet GMP standards. Halal butchers and slaughterhouse staff need regular training on GMP standard cutting techniques to produce ASUH meat. Supervision of cutting activities at the slaughterhouse also needs to be carried out. The conclusion is that it is necessary to improve and supervise all slaughterhouse activities so that GMP standard aspects can be met.

Keywords: ASUH, carcass, kolaka, meat, slaughterhouse

INTRODUCTION

The quality and safety of meat produced are greatly influenced by the meat supply process carried out at the slaughterhouse. If the handling of livestock and meat at the slaughterhouse does not meet the required sanitation and hygiene standards, it will affect the quality, halalness, and safety of the meat produced. Technical operational guidelines and standards are needed to carry out the function of the slaughterhouse as a place for slaughtering livestock to produce meat that meets the SHIH principles (safe, healthy, intact, and halal). Trajkoska et al. (2021) stated that good hygiene practices to reduce microbial contamination are very important to ensure the safety of food products, especially meat. Meat safety must be ensured before it is consumed by humans (Ong et al., 2021).

Slaughterhouse plays a central role in food safety, making the implementation of Good Manufacturing Practices (GMP) in slaughterhouses crucial. GMP is a set of guidelines and best practices that have been globally recognized to ensure that food products, including meat, are produced to high quality and safety standards (Blanchfield, 2005). The implementation of GMP in slaughterhouses involves various aspects, ranging from sanitation, animal health supervision,

and waste management, to meat processing and storage. The main purpose of GMP is to protect consumer health, prevent diseases caused by contaminated meat, and ensure the quality of meat products that meet established standards (de Oliveira et al., 2016). However, in practice, the implementation of GMP in slaughterhouses does not always go well.

Along with increasing consumer awareness of the importance of safe and quality meat products, as well as increasingly stringent government regulations in terms of food, evaluation of GMP implementation in slaughterhouses has become very important. Several evaluations have been conducted in slaughterhouses including: slaughterhouse in Batu City (Subadyo, 2017); slaughterhouse in the Bangka Belitung Islands (Suryanto et al., 2019); slaughterhouse in Malang City (Susanawati et al., 2018); slaughterhouse in Jambi (Puspitawati et al., 2021); and slaughterhouse in West Aceh (Pakpahan and Anggriawin, 2022). This evaluation procedure will ensure that the slaughterhouse complies with GMP guidelines, improves the quality of meat products, and maintains the reputation of the livestock and meat processing industry. Kolaka Regency has a slaughterhouse with a land area of 1600 m² in Tahoa District. This slaughters activities at 01.00-04.00 WITA every day, with the number of cows slaughtered as many as 4-7 heads. Related to this, it is necessary to evaluate the implementation of GMP and Check List Halal Control Points (HCPs) at the Kolaka Regency slaughterhouse.

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MATERIALS AND METHODS

Material

The study was conducted at the slaughterhouse in Kolaka Regency, Southeast Sulawesi Province. The data collected focused on the mechanism of beef production, the stages of receiving live cattle to becoming carcasses ready for consumption, and the evaluation of the level of compliance with the principles of GMP and HCPs in the beef production process. Respondents were determined based on the non-probability sampling method with incidental sampling techniques. The respondents numbered 30 people consisting of halal slaughterers and officers of the Plantation and Livestock Service who were in charge of slaughterhouse operational activities. Research data were collected through several methods, including interviews, literature studies, and direct field observations. The questionnaire in this study was compiled based on GMP implementation standards referring to the 2005 Veterinary Control Number (VCN) form and the Regulation of the Ministry of Agriculture of the Republic of Indonesia Number 13/Permentan/OT.140/1/2010.

The data obtained were analyzed descriptively and quantitatively in the percentage of non-conformity by calculating the weighted value divided by the total weighted value so that the level of conformity of the implementation of GMP can be known. The assessment given in the implementation of GMP by the Decree of the Ministry of Agriculture Number: 381/Kpts/OT.140/10/2010 uses a scale of 0-4, namely: 0 = GMP deviation value that occurs is 0%; 1 = GMP deviation value that occurs is 1-25%; 2 = GMP deviation value that occurs is 26-50%; 3 = GMP deviation value that occurs is 51-75%; 4 = GMP deviation value that occurs is >75%.

Next, the total application value (Y) is determined to obtain the percentage that corresponds to the implementation of GMP by using the calculation of the number of aspects derived from the audit checklist form (Lukman, 2001), namely:

$$Y = (n_0 \times 0) + (n_1 \times 1) + (n_2 \times 2) + (n_3 \times 3) + (n_4 \times 4)$$

Description:

Y = total value of implementation obtained;

n_0 = number of aspects that have a value of 0 in the checklist form;

n_1 = number of aspects that have a value of 1 in the checklist form;

n_2 = number of aspects that have a value of 2 in the checklist form;

n_3 = number of aspects that have a value of 3 in the checklist form;

n_4 = number of aspects that have a value of 4 in the checklist form.

The total application value (Y) obtained is then adjusted to the percentage scale of conformity of GMP application: 80-100% (value of conformity aspects of GMP implementation that meet); 60 - 79% (the conformity value of aspects of GMP implementation is sufficient); 40-59% (the conformity value of aspects of GMP implementation that did not comply); 20-39% (the conformity value of aspects of GMP implementation is very inadequate); 0-19% (conformity value for aspects of GMP implementation that did not meet). Next, determine the classification of the severity level of GMP implementation obtained from the total application value (Y) (Lukman, 2001):

($n \times 0$) = 0 (light)/fulfill

($n \times 0$) + 1) to ($n \times 1$) = 1-113 (light)/sufficiently sufficient

($n \times 1$) + 2) to ($n \times 2$) = 114-226 (Moderate) / less than satisfactory

($n \times 2$) + 3) to ($n \times 3$) = 227-339 (severe) / very inadequate

($n \times 3$) + 4) to ($n \times 4$) = 340-452 (critical) / not meeting

Description:

n = total number of aspects observed in the sub-chapter in the checklist form

RESULTS AND DISCUSSION

GMP Implementation

Technical requirements of slaughterhouse

The GMP implementation value on the technical requirements of the slaughterhouse is 43.75%, which means it does not meet the GMP implementation standards (Table 1). This value illustrates that when slaughtering livestock, slaughterers do not pay attention to animal welfare aspects and do not follow the standard operational procedure (SOP) for animal health and veterinary health. In addition, zoonosis prevention is not carried out optimally, and only antemortem examinations are carried out. The limited number of veterinarians in Kolaka Regency means that supervision of livestock at the slaughterhouse cannot be carried out routinely.

Table 1. Implementation of GMP at the slaughterhouse of the plantation and livestock service of Kolaka regency

Assessment Indicators	Implementation of GMP in slaughterhouse	
	Score	Information
Technical requirements for slaughterhouses		
1. Correct slaughtering according to SOP for animal health, paying attention to animal welfare aspects, and by Islamic law which is carried out routinely.	1	Slaughtering is by Islamic sharia
2. Correct slaughtering according to Islamic law (The cutter is Muslim, has reached puberty, is of sound mind, and recites the phrase bismillah when cutting)	4	The slaughterman is Muslim, has reached puberty, is of sound mind, and recites the phrase basmalah when slaughtering.
3. Conduct routine antemortem and postmortem examinations	1	Only carry out antemortem examination
4. Carrying out zoonosis prevention	1	Only carry out antemortem examination
		43,75% (GMP implementation did not comply)
Slaughterhouse's location requirements		
The location of the slaughterhouse must be by the Regional Spatial Planning General Plan (RUTD) and the Regional Spatial Planning Detail Plan (RDTRD).	2	It is located lower than the settlement, have access to sufficient clean water for cutting.
		50% (GMP implementation did not comply)
Supporting Facilities Requirements		
Slaughterhouse must be equipped with supporting facilities/infrastructure	3	Have good road access to the slaughterhouse, Water sources meet the requirements for clean water quality standards in sufficient quantities, and sufficient electricity sources.
		75% (GMP implementation is sufficient)
Layout, design, and construction requirements		
1. The building layout, design, and construction of the slaughterhouses are by the Regulation of the Ministry of Agriculture Number 13 of 2010.	1	The main building has a holding pen/resting pen for animals, an administration office, and toilets.
2. Slaughterhouses have facilities to produce fresh chilled or frozen meat end products.	0	-
3. Slaughterhouses have a dirty area according to the Ministry of Agriculture Regulation Number 13 of 2010	1	There is a livestock lying area, a slaughter area, and a bleeding area
4. Slaughterhouses have a clean area by the Ministry of Agriculture Regulation Number 13 of 2010	0	-
5. The main building of the slaughterhouses meets the requirements based on the Regulation of the Ministry of Agriculture Number 13 of 2010	1	There is a dirty room
6. Has a ruminant unloading area	0	-
7. Have an ideal livestock shelter and resting pen	2	Has a capacity of 1.5 times the average number of livestock slaughtered each day; There is a drinking water place for livestock.
8. Slaughterhouses have isolation pens for livestock that require special handling.	0	-
9. Slaughterhouses have a cooling/chilling room	0	-
10. Slaughterhouses have a deboning room and cutting room area	0	-
11. Administrative offices and veterinary offices must meet the requirements	1	Have an administration office in the main building of the slaughterhouses
12. Slaughterhouses have a canteen and prayer room which must meet the requirements	0	-
13. Slaughterhouses have an employee restroom and personal belongings storage/changing room (locker) that meets the requirements.	0	-
14. Slaughterhouses have bathrooms and toilets that meet the requirements	0	-
15. Slaughterhouses have a cold storage room that meets the requirements	0	-
16. Slaughterhouses loading of carcasses or meat into transport vehicles	0	-
17. Slaughterhouses have facilities for destroying carcasses and/or products that cannot be used or incinerators.	1	Can destroy carcasses and/or products that cannot be utilized
18. Slaughterhouses have a laboratory building that meets the requirements according to the Ministry of Agriculture Regulation Number 13 of 2010	0	-
19. Slaughterhouses have a basic design and construction of a fast-freezing room (blast freezer) that meets the requirements.	0	-
		10.29% (GMP implementation did not meet)
Waste requirements		
Slaughterhouses have waste handling facilities that meet the requirements	0	
		0% (GMP implementation did not meet)
Equipment requirements		
1. The main building of the slaughterhouses has complete equipment and facilities.	0	-
2. The slaughterhouses have adequate meat removal and meat-cutting equipment.	0	-
		0% (GMP implementation did not meet)
Human resources requirements		
The slaughterhouse has adequate veterinarians, slaughterhouse staff, halal slaughterers, and cleaning staff.	2	There is a veterinarian; There are certified halal slaughterers.
		50% (GMP implementation that did not comply)

Recommendations that can be given to overcome this are to increase the number of veterinarians so that the livestock slaughtering process at the slaughterhouse can be monitored routinely, especially during antemortem and postmortem examinations. In addition, the knowledge of slaughterers and technical personnel of the Kolaka Regency Plantation and Livestock Service regarding the implementation of GMP at the slaughterhouse and antemortem and postmortem examinations of livestock also needs to be improved. According to [Ministry of Agriculture Regulation Number 13 of 2010](#), the technical requirements for the slaughterhouse include: the inspection of livestock slaughtering must be carried out correctly according to the veterinary public health manual, paying attention to aspects of animal welfare and carrying out antemortem and postmortem examinations. [Khanal and Poudel \(2017\)](#) and [Fasanmi et al. \(2018\)](#) stated that the level of education and knowledge effectively reduces the risk of meat contamination at the slaughterhouse. Routine inspections also need to be carried out to maintain high standards in meat processing ([Bhandari et al., 2022](#)). [Soepranianondo et al. \(2019\)](#) stated that effective sanitation and hygiene practices and the implementation of HACCP can reduce beef contamination.

Location requirements

The GMP implementation value for the slaughterhouse location requirements is 50%, which means it does not meet the GMP implementation standards (Table 1). This is because the cleaning program is not running effectively and slaughterhouse activities have the potential to cause environmental disturbances and pollution. Recommendations that can be given to increase the GMP implementation value are to create SOPs and increase supervision of the slaughterhouse slaughtering and disinfection process by [Ministry of Agriculture Regulation Number 13 of 2010](#). According to [Ministry of Agriculture Regulation Number 13 of 2010](#), the slaughterhouse location must meet the following requirements: by the regional spatial planning plan, the area is not prone to flooding, is not polluted, is located lower than residential areas, has access to clean water and is not near metal and chemical industries and there is sufficient land for slaughterhouse development. [Almakhali et al. \(2023\)](#) stated that slaughterhouses must be located on relatively flat land, are quite large, and not close to industry, smoke, odor, dust, or other contamination. The slaughterhouse location should

not be located in a densely populated residential area ([Alpina et al., 2021](#)).

Supporting facilities requirements

In terms of supporting facility requirements, the GMP implementation value was obtained at 75%, which means that it meets the GMP implementation standards (Table 1). Factors that influence this include: the slaughterhouse having good road access, the availability of water that meets the requirements for clean water quality standards in sufficient quantities, and sufficient electricity sources. However, according to [Ministry of Agriculture Regulation Number 13 of 2010](#), the slaughterhouse does not have solid and liquid waste handling facilities. According to [Ministry of Agriculture Regulation Number 13 of 2010](#), the slaughterhouse must meet other supporting facility requirements such as good road access, clean water in sufficient quantities, meets the water quality standards, sufficient electricity source, and liquid and solid waste handling facilities. [Chmielewska et al. \(2022\)](#) stated that hygiene and high cleanliness standards are not only important for food safety but also have an impact on the profitability of meat production, because poor hygiene can increase costs. According to [Supriyatin et al. \(2015\)](#), slaughterhouses that do not meet standards will have negative social, economic, environmental, and health impacts. [Arrieta et al. \(2014\)](#) stated that animal-derived food products are very susceptible to contamination from water, dust, soil, and air in the slaughterhouse area. *E. coli* contamination can occur due to direct contact between carcass/meat and the floor during the skinning process. *E. coli* in meat produced from the slaughterhouse shows that the handling process at the slaughterhouse has not optimally implemented sanitation hygiene ([Bahri et al., 2019](#)).

Layout, design, and construction requirements

The GMP implementation value on the requirements for the layout, design, and construction of the slaughterhouse is 10.29%, which means it does not meet the GMP implementation. This is due to the unavailability of several rooms needed in the process of providing ASUH meat such as a refrigerated aging room, a carcass loading area, and facilities to produce fresh chilled, or frozen meat products. In addition, the Kolaka slaughterhouse does not have a clean area that functions as a place for removing (loading) carcasses and meat. The slaughterhouse also does not have an unloading area to prevent injury to livestock when unloaded from transport vehicles. Isolation cages for livestock that require special

handling are also not yet available so that sick and healthy livestock are in the same cage. According to the Regulation of the [Ministry of Agriculture Number 13 of 2010](#), the slaughterhouse must meet the requirements for layout, design, and construction including the main building of the slaughterhouse is fenced, a separate door for the entry of living animals, carcasses, and meat to prevent contamination, a place to shelter and rest cattle, a room for loading carcasses and meat, an administration and veterinarian office, a private room for employees, toilets, carcass disposal facilities, waste handling facilities and a guard house. The slaughterhouse in Kolaka Regency has a main building that is not separate from the housing building and holding pens, even though according to [Ministry of Agriculture Regulation No.13/Permen/OT.140/1/2010](#), the slaughterhouse must have a main building, office, pens, rest room, and other separate building facilities.

Waste handling requirements

In the requirements for handling slaughterhouse waste, the GMP implementation value was 0%, which means that it does not meet the implementation of GMP. This is because the slaughterhouse does not have facilities for handling solid and liquid waste, which causes environmental pollution. According to [Ministry of Agriculture Regulation Number 13 of 2010](#), the slaughterhouse must have waste handling facilities including: having a capacity according to the volume of waste produced, easy to operate, easy to maintain, odorless, and meeting environmental health requirements. [Sanjaya et al. \(2016\)](#) stated that liquid waste processing at the slaughterhouse needs to be carried out before being discharged into the environment so it does not damage the environment. [Kuntoro et al. \(2012\)](#) added that hygiene, sanitation, and animal health affect the production process and products produced by the slaughterhouse. Poor implementation of hygienic sanitation during the production process will affect the level of microbial contamination of the meat produced ([Fitri et al., 2021](#)). Carcass disposal facilities also need to be provided so it does not spread disease ([Alpina et al., 2021](#)).

Equipment requirements

In the requirements for slaughterhouse equipment, the GMP implementation value was 0%, which means it did not meet the GMP implementation. This is due to the unavailability of tools for fixing animals (restraining boxes) and adequate equipment for releasing meat and cutting carcasses/meat. According to [Ministry of](#)

[Agriculture Regulation Number 13 of 2010](#), the requirements for equipment at slaughterhouses include: equipment made of materials that are not easily corrosive, maintained, cleaned, and disinfected, equipment that are not made of wood or toxic materials, safe for food and there are washing facilities. [Deswita et al. \(2018\)](#) stated that the method of handling livestock and carcasses/meat must be conducted according to the SOP at the slaughterhouse so that the quality, safety, halalness, and consumer health can be guaranteed. Healthy and safe meat means that the meat is not contaminated with pathogenic bacteria that cause disease and residues when consumed ([Rohyati et al., 2017](#)). According to [Gaznur et al. \(2017\)](#), factors causing microbial contamination in slaughterhouses are sanitation of facilities/equipment, staff hygiene, direct contact with the floor, contamination from rumen contents, and water. In addition, high microbial content can also occur during packaging, transportation, and distribution. [Fitri et al., \(2021\)](#) stated that the implementation of poor sanitation hygiene standards during the production process will affect the level of microbial contamination in meat.

Human resources requirements

In terms of human resource requirements, the GMP implementation value was 50%, which means that it did not meet the GMP implementation. This is due to the number of veterinarians, halal slaughterers, and cleaners were insufficient to carry out slaughterhouse operations. The existing cleaners are also untrained. According to [Ministry of Agriculture Regulation Number 13 of 2010](#), human resources at slaughterhouses include: health supervisors (veterinarians), halal slaughterers, technical persons responsible for slaughtering, butchers, and trained human resources in the field of slaughtering and cutting. Workers at the slaughterhouse are required to maintain personal hygiene, the place, and equipment before and after slaughtering and cutting. Workers do not take any actions that can contaminate the product and must be wearing personal protective equipment. According to [Ollong et al. \(2020\)](#), cross-contamination can occur from employee to water and to the carcass vice versa. Personal hygiene is part of the occurrence of cross-contamination which affects the quality and safety of the products produced. [Nurwantoro et al. \(2012\)](#) stated that the main factors causing contamination and high levels of Coliform in meat are water (60%) and officers (40%). Livestock products must meet basic product safety

requirements that implement a hygiene and sanitation system in their production process (Fitri et al., 2021).

Halal Control Points (HCPs)

Slaughtering officers and procedures

The GMP implementation value on the halal control points requirements is 58%, which means it does not meet the GMP implementation. This is due to the absence of routine antemortem and postmortem examinations. According to [Ministry of Agriculture Regulation Number 13 of 2010](#), antemortem and postmortem examinations must be carried out routinely by Veterinarians to eliminate

meat that is not fit for consumption. [Yosita et al. \(2012\)](#) stated that the livestock slaughtering procedure includes; the livestock acceptance stage, livestock shelter, antemortem examination, examination of productive female livestock, the slaughtering process, postmortem examination, meat aging, meat transportation, and meat supervision in the market.

The assessment of the suitability of the implementation of GMP in terms of officers and slaughter procedures at the Kolaka Regency slaughterhouses is presented in the following Table 2.

Table 2. Slaughter officers and procedures

Assessment Indicators	Implementation of GMP in slaughterhouses	
	Score	Score Indicator
Slaughter officers and procedures		
1. Slaughter staff at the slaughterhouse meet the requirements	4	The slaughterman must be Muslim; Minimum age of 18 years, be physically and mentally healthy; Understand the procedures for slaughtering according to Islamic law; and pass training and certification.
2. Requirements for livestock that are suitable for slaughter	2	The slaughtered livestock is halal; The slaughtered livestock is alive when slaughtered.
3. Slaughterhouses have facilities for the production of halal livestock meat	3	Slaughterhouses only slaughter halal animals; Slaughtering tools must meet the requirements (sharp); slaughterman understand slaughtering according to Islamic law.
4. Pre-slaughter procedures by animal welfare	1	Livestock to be slaughtered rest for approximately 12 hours before slaughter.
5. Carrying out slaughtering by Islamic law	4	The slaughterman says a prayer; The position of the livestock being slaughtered (lying down). Slaughtering is done quickly; Three channels were cut, and blood flowed profusely. Does not sever the cervical spine; The slaughtered animal is faced to the Qiblah.
6. Post-slaughter livestock handling procedures a by Veterinary Health Procedures	0	-
58% (GMP implementation did not comply)		
Basic eligibility checks of animal food units		
1. The location and environment of the business unit are adequate	2	The location of the business unit is by the address listed in the permit; with physical separation between the slaughterhouse.
2. Construction of building materials suitable for use in processing livestock-derived food	0	-
3. Adequate water supply for daily cutting	2	There is a sufficient supply of clean water; water sources are sufficient every day.
4. Hand washing and foot-deep washing facilities are available and effective.	0	-
5. Insect and rodent control programs are running effectively	0	-
6. Cleaning and disinfection must be carried out routinely and effectively.	1	Equipment and containers are washed with clean water.
7. Personal hygiene is routinely implemented and is effective in producing ASUH food.	1	Employees who are in direct contact with the product are in good health.
8. Acceptance of live livestock by animal welfare and veterinary health procedures	0	-
9. Biosecurity of livestock product handling	0	-
10. Equipment and containers for meat handling	-	-
11. Hygiene and sanitation of slaughterhouse	0	-
12. Good veterinary practice	0	-
13. Handling during the cutting process is by veterinary health procedures to prevent zoonosis.	0	-
14. Testing by an accredited external party	0	-
15. Slaughter according to Islamic law and animal husbandry procedures	4	Slaughter is carried out by a verified halal slaughterman; Slaughter follows halal slaughter procedures; The knife used is sharp and long enough; Maintaining the cleanliness routinely.
16,6% (GMP implementation did not meet)		

The GMP implementation value on the halal control points requirements is 58%, which means it does not meet the GMP implementation. This is due to the absence of routine antemortem

and postmortem examinations. According to [Ministry of Agriculture Regulation Number 13 of 2010](#), antemortem and postmortem examinations must be carried out routinely by Veterinarians to

eliminate meat that is not fit for consumption. Yosita et al. (2012) stated that the livestock slaughtering procedure includes; the livestock acceptance stage, livestock shelter, antemortem examination, examination of productive female livestock, the slaughtering process, postmortem examination, meat aging, meat transportation, and meat supervision in the market.

Basic eligibility check of animal food units

The GMP implementation value on the basic eligibility requirements of animal food units is 16.6%, which means it does not meet the GMP implementation. This is because there is no separation between dirty and clean rooms, and there are no facilities for handling waste, waste, and equipment that cause solid and liquid waste to be around the slaughterhouse location. Personal hygiene is not appropriate because the slaughterer does not use special clothing so it affects the hygiene of the carcass/meat. The construction of the slaughterhouse building is also inappropriate because the processing room is directly connected to the slaughter area, the aging area, and the carcass weighing. However, the water supply for the livestock slaughtering process at the slaughterhouse is available in sufficient quantities. According to the [Regulation of the Ministry of Agriculture Number 13 of 2010](#), slaughterhouse officers who carry out slaughtering must wear special work clothes, aprons, and head coverings. The slaughterhouse building must have dirty and clean areas. Dirty areas include: (a) stunning area, slaughtering area, and blood removal area, (b) slaughtering process completion area, (c) offal room, (d) head and foot room, (e) skin room, and (f) postmortem examination area. Clean areas include: (a) carcass weighing area, (b) carcass exit area, (c) cooling/aging room, (d) freezer room, and (e) carcass distribution and meat packaging room.

CONCLUSION

The implementation of GMP in general and the halal control point (HCP) checklist at the Kolaka Regency slaughterhouse had values of 32.72 and 37.3, which are inadequate to meet GMP standards. The Kolaka Regency Government must strive to build slaughterhouse facilities equipped with facilities and infrastructure that comply with GMP standards. Routine training for halal slaughterers and slaughterhouse officers regarding cutting techniques that comply with GMP standards, so that they can produce safe, healthy, intact, and

halal meat and supervision in carrying out cutting activities at the slaughterhouse.

CONFLICT OF INTEREST

There is no conflict of interest regarding any financial issues.

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