



O&M MANUAL FOR SLAUGHTERHOUSE SERVICES

ENERGY MANAGEMENT AND OPERATION & MAINTENANCE OF 16
SELECTED MCs SERVICES INFRASTRUCTURE ASSETS PROJECT

JUNE 27, 2023

**PITCO**

PITCO (PRIVATE) LIMITED

Contents

1. Introduction	1
1.1. Purpose of the Manual.....	1
1.2. How to Use the Manual.....	1
1.3. Overview of Slaughterhouse Services	1
2. Operating Procedures.....	3
2.1. Slaughter Process.....	3
2.2. Waste Disposal.....	3
2.3. Animal Welfare.....	4
2.4. Hygiene and Sanitation	5
2.5. Occupational Safety Procedures.....	6
2.6. Equipment Description and Specifications.....	7
3. Maintenance Procedures.....	12
3.1. Regular Maintenance Schedules.....	12
3.2. Equipment Maintenance Procedures.....	12
3.3. Infrastructure Maintenance Procedures	12
3.4. Emergency Maintenance Procedures	12
4. Quality Assurance and Control	13
4.1. Quality Assurance Procedures	13
4.2. Quality Control Procedures	13
4.3. Monitoring and Evaluation.....	13
5. Employee Training and Development.....	14
5.1. Employee Roles and Responsibilities	14
5.2. Training Programs	15
5.3. Health and Safety Training	16
5.4. Professional Development Opportunities.....	16
6. Risk Management	18
7. Environment and Sustainability	19
7.1. Environmental Impact Assessment	19
7.2. Sustainable Practices	19
7.3. Waste Management.....	19
8. Regulatory Compliance.....	20
8.1. Compliance with Local Laws.....	20

List of Figures

Figure 1: Butcher knives	8
Figure 2: Skinning Knife.....	8
Figure 3: Boning knife	9
Figure 4: Boning knife	9
Figure 5: Hand Saw	9
Figure 6: Carving knife.....	9
Figure 7: Meat Cleaver	10
Figure 8: Cimeter knives.....	10
Figure 9: cut-resistant gloves	10
Figure 10: Aprons	10
Figure 11: Slip-resistant footwear.....	10
Figure 12: Safety glasses	10

1. INTRODUCTION

1.1. Purpose of the Manual

An Operation and Maintenance (O&M) manual for a slaughterhouse holds multifaceted importance in maintaining the functionality and safety of the facility. This manual outlines the standard operating procedures (SOPs), detailing the proper usage of all equipment and processes involved in a slaughterhouse. Additionally, it offers vital information on safety procedures to mitigate potential hazards associated with large machinery, sharp tools, and biological contamination inherent in such settings.

The O&M manual also serves as an invaluable guide for training new employees, and for continuous learning for existing staff, ensuring everyone has a uniform understanding of the operations. Furthermore, it provides a structured maintenance plan for equipment to uphold optimal operations, animal welfare, worker safety, and product quality. The manual also proves critical in illustrating compliance with industry standards and regulatory requirements at local, state, and federal levels, confirming that all operations align with humane slaughter practices, food safety, worker safety laws, and environmental norms.

The manual plays a pivotal role in quality control and assurance, outlining protocols for handling raw materials, controlling processes, product storage, and dispatching processes to maintain a high standard of products. To ensure preparedness in times of crisis, the manual includes emergency procedures to handle various issues, including equipment failure, power outages, fires, or biological contamination events. Therefore, the O&M manual is an essential document that helps ensure operational efficiency, worker safety, regulatory compliance, and high-quality product output. It should be easily accessible and regularly updated to incorporate any changes in equipment, procedures, or regulations.

1.2. How to Use the Manual

To effectively use the Operation and Maintenance (O&M) manual for a slaughterhouse, it is important to familiarize yourself thoroughly with its contents. This begins with understanding the standard operating procedures (SOPs) and safety guidelines detailed in the manual. New employees should use the manual as a foundational resource during their training period, while experienced staff should revisit the manual regularly to refresh their knowledge and stay updated with any changes in procedures or regulations.

The O&M manual is not only a guide for day-to-day operations but also an invaluable resource for maintenance and emergency situations. Schedules for regular equipment maintenance, as well as troubleshooting guides, should be consulted to ensure the longevity and safe operation of machinery. In case of any abnormal situation or emergency, the manual should be the first point of reference for appropriate response procedures to ensure the safety of the staff and the integrity of the products. Remember, the O&M manual is a living document and should be updated regularly to reflect changes in equipment, procedures, regulations, or industry best practices. It is essential that all staff know where to find the manual, understand its contents, and know how to apply the guidance in their daily work and in emergency situations.

1.3. Overview of Slaughterhouse Services

Definition and Purpose

Slaughterhouse services, also known as abattoir services, refer to the broad range of activities carried out in facilities where animals are slaughtered for the purpose of food production. The scope of these services spans from the reception of live animals, through the slaughter and butchering process, to transportation of meat.

The primary purpose of a slaughterhouse is to provide a controlled, hygienic, and humane environment for the slaughter of animals for human consumption. Slaughterhouses are strictly regulated and monitored by health and safety organizations to ensure the meat products generated are safe for consumption. They must adhere to various laws and guidelines related to animal welfare, worker safety, hygiene standards, and environmental impact.

One of the key services provided by slaughterhouses is the humane handling and slaughtering of animals. This involves the reception and holding of livestock, followed by slaughtering of the animals. The methods used must comply with humane slaughter regulations to minimize pain and distress to the animals.

Once the animals are slaughtered, the carcasses go through a series of processes, including bleeding, flaying, skinning or plucking, evisceration (removal of internal organs), and splitting or sectioning of the carcass. All these procedures require skilled workers and special machinery, and they are performed in a carefully controlled environment to prevent contamination of the meat. This ensures that the final product is safe for human consumption.

A municipal slaughterhouse, also known as a public abattoir, serves as a critical facility for the controlled and regulated slaughter and processing of animals for human consumption. The purposes, scope, objectives, and functions of a municipal slaughterhouse can be summarized as follows:

2. OPERATING PROCEDURES

2.1. Slaughter Process

The process of slaughtering animals as outlined in these bye-laws is meticulous, strictly regulated, and designed to ensure both the humane treatment of animals and the safety of the food supply.

Intention (niyyah): The first important aspect of the slaughtering process is the intention or "niyyah". The person performing the slaughter must be fully aware of their action. This is not just a physical process, but also a mental and spiritual one. The slaughterer must recognize the gravity of taking a life and the purpose behind it, which is to provide food for humans.

Reciting "Takbir": Alongside the physical act of slaughtering, there is a specific religious aspect involved. The individual performing the slaughter must say "Takbir" which is BISMILLAH-E- ALLAHUAKBAR". The recitation must be made for each individual animal being slaughtered. This is a critical part of the process, further emphasizing the intentionality and respect behind the act.

Placement of the Cut: The cut is made on the animal's neck, just below the glottis (Adam's apple), or after the glottis for long-necked animals. This placement ensures a swift and efficient cut, causing minimal suffering to the animal.

Severing Vital Vessels: The act of slaughtering involves making an incision that severs the trachea (halqum), esophagus (mari), both carotid arteries, and both jugular veins (wadajain). This comprehensive severing hastens both the bleeding and death of the animal, which is designed to minimize any suffering.

Spontaneous and Complete Bleeding: After the incision is made, the animal is left to bleed. The bleeding must be spontaneous and complete. This process ensures the removal of most of the blood from the animal's body, as consumption of blood is generally avoided in many cultures.

Removal of the Carcass: Once the animal has been slaughtered and bled, it's removed from the slaughter area. This is done to ensure that the area remains as clean as possible and is ready for the next animal.

Dressing of the Carcass: After the animal has been slaughtered and removed, the process of dressing or preparing the carcass begins. This involves the removal of the hide or skin, and the separation of the meat from the bones.

Disposal of Waste: All unwanted offal, blood, and other waste materials are to be removed from the slaughterhouse within 24 hours. It's crucial to manage this waste properly, as it can lead to unpleasant odors and become a breeding ground for disease if not handled properly.

Inspection and Approval: All animals slaughtered in a private slaughterhouse must be inspected and stamped by a Veterinary Officer nominated by the local government. This ensures that the animal was healthy at the time of slaughter and that the meat is safe for consumption.

Sanitation and Cleaning: The cleanliness and sanitation of the slaughterhouse are of utmost importance. After each slaughtering operation, the premises should be cleaned and all waste materials removed. Regular whitewashing, proper drainage, and pest control are other critical sanitation measures. These steps help ensure that the slaughtering process remains hygienic and that the meat produced is safe for consumption.

2.2. Waste Disposal

The waste disposal process, as per the reviewed bye-laws, is an essential component of the operation of a slaughterhouse. It is designed to maintain hygiene and sanitation, and to prevent the risk of disease spread.

This process is governed by strict regulations to ensure the safety of both workers within the facility and the wider community.

Collection of Waste: The first step in the waste disposal process is the collection of all waste materials. This includes blood, unwanted offal, and other refuse that is generated during the slaughtering, flaying, and dressing of the carcasses.

Immediate Cleaning: Once an animal has been slaughtered and dressed, all remnants including blood and offal should be promptly cleared. These materials need to be immediately swept and washed out in a proper manner. This not only minimizes the spread of any potential contaminants but also helps maintain the working efficiency of the slaughterhouse.

Removal of Waste: All waste materials, such as skins, hides, leather, blood, and offal, must be removed from the slaughterhouse within 24 hours of slaughtering. Prolonged storage of such materials within the slaughterhouse could pose significant health risks due to decomposition and potential pathogen growth.

Sanitation Maintenance: The sanitation of the premises is a crucial aspect of waste disposal. After the slaughtering operations are over, the premises should be properly cleaned and sanitized. This includes regular whitewashing of the facility at least twice a year, proper paving and drainage, and ensuring a constant supply of water.

Supervised Disposal: The disposal of waste materials is not an independent process, it is carried out under the supervision and control of the In-charge of the slaughterhouse. This ensures that the process aligns with all local laws and bye-laws related to environmental protection and waste management.

Dedicated Disposal Sites: The waste generated from the slaughterhouse is taken to a specific place fixed for this purpose by the Local Government. This prevents the random dumping of waste, which could lead to environmental pollution and disease spread.

Regular Cleaning: The slaughterhouse premises must be kept thoroughly clean and all waste materials removed at least once every 24 hours. This frequent cleaning reduces the chance of pest infestations, foul odors, and the spread of diseases.

Pest Control: The local government mandates pest control measures to prevent the access of pests like insects, rodents, and birds to the slaughterhouse. These pests could be carriers of disease, hence their control is integral to the waste management process.

Instruction by Local Government: The local government has the power to issue instructions regarding sanitation and other affairs related to the slaughterhouse. These instructions could pertain to new methods of waste disposal, management strategies, or sanitation measures.

Supervision by Local Government: Finally, the entire waste disposal process is supervised by the local government. Regular inspections are likely carried out to ensure compliance with all waste management guidelines. Violations may lead to penalties or license suspensions, ensuring adherence to proper waste disposal practices.

2.3. Animal Welfare

Animal welfare is a significant consideration within these by-laws and is a critical component to ensuring ethical and humane treatment of animals in the slaughterhouse.

Health Checks: One of the fundamental aspects of animal welfare embedded in these by-laws is the prevention of slaughtering diseased or unfit animals. No deceased, unfit, or useful animal shall be

slaughtered in the slaughterhouse nor brought the same therein. This measure helps to protect the welfare of the animals and also assures the health and safety of the consumers.

Treatment of Animals: Another significant provision under these by-laws relates to the treatment of animals. It is stated that no person, whether it be the owner or an employee, is allowed to cruelly beat, ill-treat, abuse or torture any animal in a slaughterhouse, or cause such actions to be done. This provision ensures that the animals are handled humanely and not subjected to unnecessary pain or distress.

Slaughtering Limits: In order to ensure animal welfare and maintain manageable working conditions, there are restrictions on the number of animals that a butcher or flayer is allowed to slaughter and dress per day. For instance, no butcher or flayer is allowed to slaughter and dress more than 5 cattle or buffaloes or 25 sheep and goats per day in a slaughterhouse.

Professional Standards: The by-laws also require that no person other than a licensed butcher, flayer, or their licensed staff is allowed to slaughter and dress any animal at the slaughterhouse. These individuals are trained to perform the procedures in a way that minimizes pain and distress to the animals, thus promoting animal welfare.

Humane Slaughtering Techniques: The by-laws include specifications on the humane methods of slaughtering animals. The act of Halal slaughter requires severing specific parts of the neck, which hastens the death of the animal and minimizes suffering.

Preparation for Slaughter: Animals must also be adequately prepared before slaughter, with the act of slaughtering performed with a specific intention (niyyah) that ensures the slaughterer is aware of their action. Additionally, at the time of slaughtering, the slaughterer must recite the Takbir "BISMILLAH-E-ALLAHUAKBAR" to ensure mindfulness of the act.

Immediate Clean-Up: The by-laws require that after an animal is slaughtered, its remains are immediately swept and washed out in a proper manner. This regulation aims to prevent further distress to other animals that might be caused by the sight or smell of blood and remains.

Animal Inspection: All animals that are brought to the slaughterhouse, whether private or public, are required to be inspected by a Veterinary Officer nominated by the Local Government. This measure ensures that only healthy and fit animals are slaughtered.

Proper Equipment: Licensed butchers and flayers are required to use special flaying knives as approved by the In-charge of the slaughterhouse. This indicates that tools used are designed to ensure a quick, efficient, and humane slaughtering process.

Appeals and Penalties: If any person feels that the animal welfare standards outlined in the by-laws are not being adhered to, they have the right to file an appeal under section 192 of the Act to the Appellate Authority. Penalties are also outlined for those who do not observe the conditions of their license, which includes provisions for animal welfare.

2.4. Hygiene and Sanitation

Hygiene and sanitation are paramount within these by-laws for maintaining a safe and healthy environment in the slaughterhouse. These regulations are enforced by the Local Government and are designed to prevent the spread of diseases and contamination, ensuring the health and safety of both workers and consumers.

Preventing Disease Transmission: The by-laws explicitly state that no person affected with leprosy, sores, or any other skin disease is allowed to enter the slaughterhouse premises. This measure is crucial to prevent the potential transmission of diseases to others within the premises or to the meat products.

Access Control: There are also restrictions on who can enter the slaughterhouse during slaughtering, flaying, or dressing of the carcass. This is limited to Local Government staff on duty and licensed workers, unless permission is granted by the In-charge slaughterhouse. This ensures that the cleanliness and sanitation of the premises are maintained by limiting access to those who are aware of and can maintain proper hygiene protocols.

Waste Management: A key aspect of maintaining sanitation in the slaughterhouse is effective waste management. The blood, unwanted offal, refuse, or other offensive material left at the slaughterhouse must be removed under the supervision and control of the In-charge of the slaughterhouse to a designated place. This ensures that waste is disposed of properly and that the slaughterhouse premises remain clean.

Maintenance of Premises: The Local Government is responsible for maintaining the sanitation of the slaughterhouse. The premises should be properly paved, have a constant supply of water, proper drainage, and be well ventilated. Additionally, the slaughterhouse must be regularly whitewashed at least twice a year and thoroughly cleaned at least once every twenty-four hours.

Pest Control: The slaughterhouse must have effective pest control measures in place. Insects, rodents, and birds should be prevented from accessing the premises as they can contribute to unhygienic conditions and potentially contaminate the meat products.

Cleaning After Slaughtering: The premises must be immediately cleaned after an animal is slaughtered, including the proper removal of blood and offal by the person or persons who slaughtered the animal.

Removal of Skins and Hides: All skins, hides, leather, and any blood saved in the slaughterhouses must be removed from the premises within twenty-four hours and shall not be brought back. This prevents the build-up of material that could contribute to unsanitary conditions.

Sanitation Instructions: The Local Government can issue necessary instructions regarding sanitation and other matters connected with the affairs of the slaughterhouse, ensuring that the most current and effective hygiene practices are enforced.

License Requirements: Private slaughterhouses must receive a license from the Local Government, and part of the criteria for obtaining and maintaining this license involves adhering to the sanitation and hygiene requirements outlined in the by-laws.

Enforcement of Hygiene and Sanitation: The In-Charge of the Slaughterhouse, with the support of the Municipal Officer (Services), is responsible for enforcing these hygiene and sanitation by-laws. The enforcement of these regulations ensures that the hygiene standards within the slaughterhouse are maintained.

2.5. Occupational Safety Procedures

Occupational safety procedures are an integral part of the by-laws to ensure the safety and well-being of all individuals working within the slaughterhouse environment. While specific details may vary, the following aspects are covered by the by-laws provided:

Access Control: To ensure occupational safety, access to the slaughterhouse is strictly limited to authorized personnel, which includes Local Government staff on duty, licensed butchers, flayers, and their licensed servants. This helps to limit exposure to potentially dangerous situations to trained and equipped personnel only.

Use of Approved Equipment: The by-laws specify that licensed butchers and flayers must use special flaying knives as approved by the In-charge of the slaughterhouse. This requirement ensures that the tools used meet safety standards and can help to prevent work-related injuries.

Limitations on Slaughtering: There are limits on the number of animals that a butcher or flayer can slaughter and dress per day (5 cattle or buffaloes, or 25 sheep and goats). This provision can help to prevent overwork and fatigue, which can lead to mistakes and potential injuries.

Hygiene and Cleanliness: The strict hygiene and cleanliness measures outlined in the by-laws also contribute to occupational safety. By ensuring the premises are kept clean and free of waste, and by regularly whitewashing and cleaning the slaughterhouse, potential hazards can be minimized.

Disease Prevention: Individuals with leprosy, sores, or other skin diseases are prohibited from entering the premises, reducing the risk of disease transmission among workers.

Pest Control: Controlling pests such as insects, rodents, and birds is a crucial aspect of maintaining a safe working environment. These pests can carry diseases and create hazardous conditions.

Handling of Waste: Waste materials such as blood, unwanted offal, and other refuse from the slaughterhouse must be removed safely and effectively under the supervision of the In-charge of the slaughterhouse. This can prevent exposure to potentially harmful substances and reduce the risk of slips, falls, and other accidents.

Disturbance and Nuisance: Creating any disturbance or nuisance in the slaughterhouse is prohibited. This maintains a safe and orderly working environment.

Removal for Safety: A person transgressing the provisions of the bye-laws can be removed from the slaughterhouse premises immediately under the direction of the in-charge of the slaughterhouse. This allows for immediate action in the case of dangerous behaviors or conditions.

Regulation of Private Slaughterhouses: Private slaughterhouses must adhere to the same safety procedures as public ones, and must be licensed by the Local Government. This helps to ensure the same safety standards are applied across all slaughterhouses.

2.6. Equipment Description and Specifications

Slaughterhouses use a variety of equipment for manual slaughtering, de-skinning, cutting, and evisceration of livestock such as goats, lambs, camels, cows, and buffalos. This equipment varies in size, design, and complexity depending on the specific task it is used for, and the type and size of the animal being processed. A general overview of the main types of equipment used is given below:

Slaughter and Bleeding Equipment: After slaughter, the animal is bled out, typically by severing the carotid arteries and jugular veins with a sharp knife. Various types of butcher knives are used for this purpose, and their size and design will depend on the size of the animal being slaughtered.



Figure 1: Butcher knives

Skinning or De-hiding Equipment: This involves removing the animal's skin or hide. The tools used for this process can include skinning knives, which are typically curved and have a blunt point to prevent puncturing the hide or underlying meat. For larger animals like cows, camels, and buffalos, mechanical de-hiding machines may also be used.



Figure 2: Skinning Knife

Evisceration Equipment: Evisceration involves removing the animal's internal organs. This process uses a range of knives and tools, including boning knives for making initial incisions and specialist evisceration spoons or hooks for removing specific organs.



Figure 3: Boning knife



Figure 4: Boning knife

Splitting Equipment: Splitting the carcass in half is typically done using a splitting saw. These can be manual hand saws or more commonly, electric or pneumatic powered saws. The size and power of the saw will depend on the size of the animal – a larger, more powerful saw would be needed for larger animals like cows and camels, for example.



Figure 5: Hand Saw

Cutting and Deboning Equipment: After the carcass is chilled, it's cut into smaller pieces. This involves various types of butcher knives, including boning knives, butcher knives, and cimeter knives. For larger animals or for more precision cuts, band saws or reciprocating saws may be used.



Figure 6: Carving knife



Figure 7: Meat Cleaver

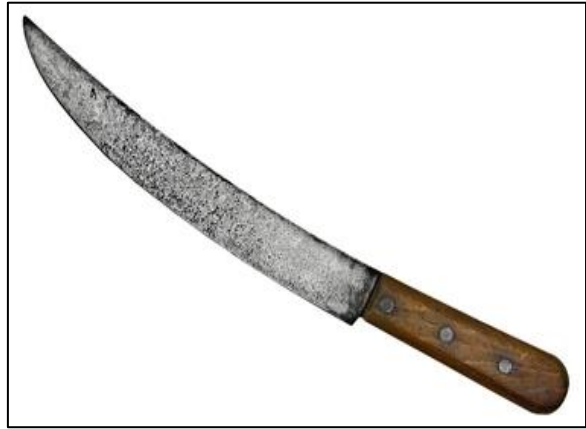


Figure 8: Cimeter knives

Safety Equipment: Safety equipment is also critical in a slaughterhouse setting. This can include cut-resistant gloves and aprons, safety glasses, and slip-resistant footwear. For tasks that generate a lot of noise, like using powered saws, ear protection is also necessary.



Figure 9: cut-resistant gloves



Figure 10: Aprons



Figure 11: Slip-resistant footwear.



Figure 12: Safety glasses

Each piece of equipment must be chosen with consideration of the size and type of the animal being processed, as well as the specific task being performed. All equipment must be kept sharp and clean to ensure efficiency and prevent contamination, and regular maintenance is essential to ensure longevity and safe operation.

3. MAINTENANCE PROCEDURES

3.1. Regular Maintenance Schedules

The by-laws underline the regular maintenance procedures to be followed for sanitation and hygiene. These include thorough cleaning of the slaughterhouse to keep it in good order, and removal of all dung and filth at least once every 24 hours. In terms of pest control, actions need to be taken regularly to prevent access to insects, rodents, and birds to the slaughterhouse. Regular maintenance also includes the sweeping and washing out of the slaughter site after an animal has been slaughtered, and the immediate removal of blood and offal by the person or persons who have slaughtered the animal.

3.2. Equipment Maintenance Procedures

Specifically for the equipment, the by-laws mention the use of special flaying knives as approved by the in-charge of the slaughterhouse. Though they do not go into detail about the maintenance procedures for these knives or other equipment, it can be inferred that they need to be properly cleaned and sanitized after each use, sharpened as needed, and replaced if damaged or worn out.

3.3. Infrastructure Maintenance Procedures

The by-laws highlight that the infrastructure of the slaughterhouse should be well-maintained. They need to be regularly whitewashed at least twice a year and kept thoroughly clean. They should be properly paved, have a constant supply of water, proper drainage, and be well ventilated. The by-laws also require that all skins, hides, leather, and all blood saved in the slaughterhouses be removed within 24 hours and not be brought back. These measures collectively help maintain the infrastructure of the slaughterhouse.

3.4. Emergency Maintenance Procedures

While the by-laws don't explicitly mention emergency maintenance procedures, some assumptions can be made based on the text. For instance, if an unlicensed person enters the premises, they are to be immediately removed. If an unfit, deceased, or a useful animal is brought to the slaughterhouse for slaughtering, it is also treated as an emergency, and the animal is to be removed immediately. In all such scenarios, immediate and appropriate actions need to be taken to ensure the health and safety of all workers, as well as the hygiene and sanitation of the premises.

4. QUALITY ASSURANCE AND CONTROL

4.1. Quality Assurance Procedures

Quality assurance procedures in the slaughterhouse are crucial to ensure that the processes are conducted as per the regulations and that the final product is safe for human consumption. The first step is to ensure that only the Local Government staff on duty, licensed butchers, and flayers, or their bona fide licensed servants, are allowed into the slaughterhouse premises during slaughtering, flaying, or dressing of the carcass, maintaining strict control over personnel. The slaughterhouse management also has to enforce the use of special flaying knives as approved by the In-charge of the slaughterhouse, ensuring that the tools used meet the required standards.

Another quality assurance measure pertains to the health of the animals. It is clearly stated that no deceased or unfit animal shall be slaughtered in the slaughterhouse, and anyone who contravenes this regulation is subject to penalties. Quality assurance also involves monitoring and control of pests (insects, rodents, and birds) to prevent their access to the slaughterhouse, ensuring a hygienic environment for slaughterhouse operations.

4.2. Quality Control Procedures

Quality control procedures involve concrete steps taken to check and ensure the quality of the products and processes in the slaughterhouse. This begins with the verification that no butcher or flayer slaughters and dresses more than the approved limit of animals per day. A licensed butcher or flayer or their staff, who must be licensed by the Punjab Halal Development Agency, Lahore, should do the slaughtering and dressing of animals.

There are also quality control measures related to waste management. All unwanted offal, blood, and refuse or other offensive material must be removed from the slaughterhouse to a designated place under the supervision and control of the in-charge of the slaughterhouse. Furthermore, skins, hides, leather, and all saved blood should be removed from the slaughterhouse within twenty-four hours.

4.3. Monitoring and Evaluation

Monitoring and evaluation involve the ongoing and periodic assessment of the processes in the slaughterhouse to ensure that they are adhering to the set regulations and standards. The Local Government plays a significant role here, as it is tasked with issuing necessary instructions on sanitation and other matters related to the slaughterhouse. It is also required to maintain the sanitation of the premises after slaughtering operations are over.

The monitoring process involves regular inspections to ensure that the slaughterhouse is well-paved, well-ventilated, and has a constant supply of water and proper drainage. The Local Government should ensure that the slaughterhouse is regularly whitewashed at least twice a year and is kept thoroughly clean and in good order.

Evaluation also covers the inspection of private slaughterhouses, where all animals slaughtered must be inspected by a Veterinary Officer nominated by the Local Government and stamped after slaughtering by the Veterinary Officer. The feedback from these evaluations is used to improve the conditions and procedures in the slaughterhouse.

5. EMPLOYEE TRAINING AND DEVELOPMENT

5.1. Employee Roles and Responsibilities

Human resource requirement Skilled and semi-skilled workers are needed to manage the operations and to look after processes including production, storage, and cleaning of the facility. Workers' and worker salaries must be incorporated into the annual planning and budget to produce an accurate depiction of the working capital needed to operate the facility. While the extent of staff needed will differ according to facility size, complexity and daily volume of animal slaughtering, the following staff are needed at a basic level of operation:

- Slaughterhouse Manager/supervisor (In Charge)
- In-house Veterinarian(s)
- Skilled laborer(s) /Slaughterer(s)
- Sanitation staff
- Administrative staff

Roles and Responsibilities of Staff

In municipal slaughterhouses, the roles and responsibilities of employees are crucial for ensuring the smooth and efficient operation of these facilities. Here are the key positions and their respective responsibilities:

Slaughterhouse Manager/Supervisor:

He is responsible to oversee the overall operations of the slaughterhouse. His specific responsibilities include;

- i. Ensure compliance with relevant federal, provincial and district regulations, health and safety standards, and animal welfare guidelines.
- ii. Manage staff, including hiring, training, and periodic performance evaluation.
- iii. Coordinate with government authorities, veterinary services, and other stakeholders.
- iv. Annual planning of resources and budgeting
- v. Manage the budget, supplies and utilities as per instructions and guidelines contained in this O&M Manual.

Veterinarian:

- i. Conduct health inspections of animals before and after slaughter.
- ii. Ensure compliance with animal welfare standards and hygiene practices.
- iii. Monitor and treat any diseases or health issues relating to animals brought for slaughtering.
- iv. Oversee the proper handling and disposal of carcasses and by-products.

Slaughterers:

- i. Perform humane and efficient animal slaughter according to Islamic principles (Halal).
- ii. Follow standard operating procedures for bleeding of animals and subsequent steps.

- iii. Maintain cleanliness and hygiene in the slaughtering area.
- iv. Maintain personal hygiene and observe health protocols
- v. Adhere to safety protocols to prevent accidents and injuries.

Meat Inspectors:

- i. Inspect carcasses and meat products for quality, hygiene, and conformity to standards.
- ii. Identify and remove any unfit or contaminated meat.
- iii. Conduct regular sampling and testing for food safety.
- iv. Ensure proper labeling and documentation of meat products.

Sanitation Workers:

- i. Clean and sanitize equipment, floors, and facilities as per SOPs.
- ii. Dispose of waste and by-products in compliance with environmental regulations.
- iii. Maintain cleanliness and hygiene throughout the slaughterhouse premises.
- iv. Follow strict personal hygiene practices to prevent contamination.

Administrative Staff:

- i. Manage paperwork, record-keeping, and documentation.
- ii. Handle scheduling, appointments, and communication.
- iii. Assist in coordination with external stakeholders and agencies.
- iv. Provide customer service and handle inquiries or complaints.

5.2. Training Programs

Training Program Outline: Slaughterhouse Staff

Objective: The training program aims to enhance the knowledge, skills, and professionalism of slaughterhouse staff in municipal slaughterhouses. It will focus on ensuring compliance with regulations, improving animal welfare practices, promoting hygiene and safety measures, and maintaining the overall quality of meat production.

Duration: The training program will be conducted over a period of [X] weeks/months, depending on the depth of training required for each role.

Training Modules:

- Introduction to Slaughterhouse Operations
- Overview of the slaughterhouse's mission, objectives, and importance of compliance.
- Understanding the regulatory framework and legal requirements.
- Introduction to standard operating procedures and best practices.
- Animal Welfare and Halal Slaughtering Practices
- Proper methods of bleeding according to Islamic principles (Halal).
- Identifying signs of distress and mitigating animal stress during the slaughtering process.
- Quality Assurance and Inspection
- Understanding quality standards for meat and meat products.
- Inspection techniques for identifying unfit or contaminated meat.

- Documentation and record-keeping requirements.

5.3. Health and Safety Training

- Food Safety and Hygiene
- Importance of personal hygiene and protective clothing.
- Principles of cross-contamination prevention and control.
- Cleaning and sanitation protocols for equipment, facilities, and utensils.
- Hygienic handling, storage, and transportation of meat products.
- Health and Safety Measures
- Identifying and managing occupational hazards.
- Proper use of personal protective equipment (PPE).
- Fire safety protocols and emergency response procedures.
- Safe handling and storage of hazardous substances.
- Sampling and testing procedures for food safety.
- Communication and Customer Service

Training Methodology:

- The training program will include a combination of theoretical sessions, practical demonstrations, and hands-on exercises.
- Training materials such as presentations, videos, and reference guides will be provided to participants.
- Practical sessions will be conducted in the actual slaughterhouse environment to reinforce learning.
- Q&A sessions and interactive discussions will be encouraged to clarify doubts and address specific challenges faced by participants.
- Regular assessments and evaluations will be conducted to monitor progress and identify areas for improvement.

Training Evaluation:

- A post-training evaluation will be conducted to assess the effectiveness of the program.
- Feedback from participants will be collected to gather insights and suggestions for further improvement.
- Performance monitoring and follow-up sessions may be scheduled to ensure the application of acquired knowledge and skills in the workplace.

Note: This outline provides a general framework for a training program and can be customized according to the specific needs, resources, and objectives of the slaughterhouse.

5.4. Professional Development Opportunities

Professional development opportunities for municipal slaughterhouse staff can enhance their skills, knowledge, and overall performance in their roles. Here are some suggestions:

Technical Training: Offer training programs that focus on the technical aspects of operating a slaughterhouse, including animal handling, humane slaughtering techniques, food safety protocols, and equipment maintenance.

Food Safety and Quality Assurance: Provide workshops or courses on food safety practices, HACCP (Hazard Analysis and Critical Control Points) principles, quality control, and compliance with relevant regulations. This will help staff ensure the safety and quality of the products they handle.

Animal Welfare: Organize seminars or training sessions on animal welfare standards, including stress reduction techniques, proper handling methods, and recognizing signs of distress. This will promote a compassionate approach to animal handling and ensure compliance with animal welfare regulations.

Occupational Health and Safety: Conduct training programs that focus on workplace safety, personal protective equipment (PPE) usage, ergonomics, and risk management. This will help staff minimize workplace accidents and injuries.

Environmental Sustainability: Offer workshops or courses on sustainable practices in the meat industry, waste management, and resource conservation. This will help staff understand and implement environmentally friendly processes within the slaughterhouse.

Management Skills: Provide training in leadership and management skills for supervisors and managers within the slaughterhouse. This could cover topics such as effective communication, team building, conflict resolution, and decision-making.

Continuous Improvement: Encourage staff to participate in workshops, training courses related to meat processing, food safety, and technology advancements.

Certification Programs: Support staff in obtaining certifications relevant to their roles, such as certifications in food safety (e.g., HACCP certification) or animal welfare. These certifications can enhance their professional credentials and contribute to the overall quality of the slaughterhouse operation.

6. RISK MANAGEMENT

Risk management in slaughterhouse operations involves identifying, assessing, and controlling hazards that could potentially impact the safety, welfare, and health of animals and employees, as well as the quality of the products. It's an integral part of overall operational management and has several aspects, as detailed below:

Workplace Safety Risks: Given the nature of the operations in a slaughterhouse, employees are exposed to several risks such as cuts, falls, musculoskeletal injuries, exposure to biohazardous materials, and noise-induced hearing loss. These risks are managed through implementing comprehensive safety protocols, regular employee training, using personal protective equipment, and maintaining a clean and orderly environment.

Product Quality Risks: These pertain to the potential contamination of meat products, which can pose serious health risks to consumers. Effective risk management involves regular quality assurance checks, adherence to hygienic procedures, proper storage and disposal of waste, and immediate action in case of any quality issues.

Animal Welfare Risks: The treatment of animals before and during slaughter can have significant impact on the quality of the meat produced and carries ethical implications. Risks are managed by following strict protocols for handling animals, adhering to humane slaughter practices, and training staff in the appropriate care and handling of livestock.

Environmental Risks: Slaughterhouse operations generate waste that can be harmful to the environment if not managed correctly. Risks are managed through implementing appropriate waste disposal methods, including treating wastewater and properly disposing of offal, and adhering to local environmental regulations.

Business Risks: These risks include regulatory compliance, market volatility, supply chain disruptions, and reputational risks. Risk management involves regular audits, maintaining good relationships with suppliers and customers, and having contingency plans in place for unexpected disruptions.

Public Health Risks: Slaughterhouses can be sources of zoonotic diseases, which can affect not just the workers but also the wider community. Regular health checks for employees, vaccination programs for livestock, and good hygienic practices can manage these risks.

Biosecurity Risks: These involve the introduction of diseases into the slaughterhouse, which can impact livestock health and subsequently the quality of meat. This is managed by implementing rigorous biosecurity measures such as disinfection procedures, pest control, and disease monitoring systems.

Risk management in slaughterhouses should be proactive, constantly evolving to address new challenges and changes in operations, regulations, or market conditions. It should also involve regular assessments and reviews to ensure that all measures are effective and updated as necessary.

7. ENVIRONMENT AND SUSTAINABILITY

7.1. Environmental Impact Assessment

The operation of a slaughterhouse can have significant impacts on the environment, necessitating the need for an Environmental Impact Assessment (EIA). An EIA for a slaughterhouse encompasses several areas. It starts with evaluating the impact on local water sources due to the high water usage in slaughter operations and potential contamination from animal waste, blood, and other byproducts. It also covers the influence on local air quality, as odors can be a significant concern. Emissions of greenhouse gases and other pollutants from the transportation and processing activities should also be considered. Soil quality may also be impacted due to waste disposal and possible spills. An EIA aims to quantify these impacts and identify strategies to minimize any negative effects, helping slaughterhouses to operate in an environmentally responsible manner.

7.2. Sustainable Practices

Adopting sustainable practices in slaughterhouse operations means taking steps to reduce waste, minimize energy and water use, and ensure the humane treatment of animals. Energy efficiency can be improved by utilizing modern, energy-saving equipment and optimizing transportation logistics. Water use can be minimized by implementing water recycling systems and effective cleaning procedures. Reducing waste involves maximizing the use of slaughtered animals, reducing packaging, and recycling or composting wherever possible. Animal welfare also plays a critical role in sustainability, and slaughterhouses should adhere to humane slaughtering and handling practices, which can also improve meat quality and public perception of the business.

7.3. Waste Management

Waste management in a slaughterhouse is an essential aspect of its operation and sustainability. It involves dealing with a variety of waste types, including animal byproducts, blood, wastewater, and packaging materials. Animal byproducts and blood can be rendered into products such as tallow, bone meal, and animal feed, reducing the amount of waste going to landfill. Wastewater should be appropriately treated before being discharged, to protect local water sources from contamination. Packaging waste can be minimized through the use of recyclable or reusable materials. Effective waste management not only reduces the environmental impact of the slaughterhouse but can also generate additional revenue streams from waste products and improve operational efficiency.

8. REGULATORY COMPLIANCE

8.1. Compliance with Local Laws

The Punjab Local Government and Community Development (SLAUGHTER OF ANIMALS AND MAINTENANCE OF SLAUGHTERHOUSES) BY-LAWS, 2023 provide definitions of key terms like animal, carcass, cull, slaughterhouse, and useful animals. Useful animals include young or pregnant livestock, animals fit for breeding or draught purposes, among other specific conditions. Some of the key features of these by-laws are discussed below.

Provision of Slaughterhouse: Local government is responsible for providing and maintaining slaughterhouses. These should be situated away from residential areas, surrounded by a fence to prevent access by dogs or other animals, and only authorized individuals are allowed inside.

Operation of Slaughter of Animals: Slaughterhouses should operate during certain hours decided by the local government. Notices showing working hours, fee details, and other necessary information must be displayed conspicuously. Slaughtering of animals is prohibited outside these fixed hours.

Prohibition: Animals may not be slaughtered for meat sale outside slaughterhouses unless due to certain exceptions such as an accident, injury, or during religious festivals. Certain days like Tuesdays and Wednesdays are also prohibited for slaughter, with other days potentially specified by the government.

Pre-Slaughter Conditions: Slaughter of 'useful animals' is prohibited. Animals brought to the slaughterhouse must meet certain health standards, like being free from disease, not pregnant, not in lactation period for cows or buffalos, and not being starved or under-fed.

Pre-Slaughter (Ante-Mortem) Inspection of Animals: Every animal for slaughter must be inspected to ensure it meets the conditions set out in the bye-laws. Animals must be fit for producing food for human consumption, not diseased or dying. Animals brought in contravention of these bye-laws must be removed from the premises immediately.

Role and Responsibility of In-charge Slaughterhouse: The in-charge is tasked with maintaining a register of all animals approved for slaughter and fees collected. Approved animals are marked and kept securely within the larraige (an approved enclosure).

Disposal of Animals Unfit for Slaughter: Animals unfit for slaughter must be removed from the slaughterhouse. Animals suspected of or confirmed to have contagious diseases must be sent to a veterinary hospital or similar facility. Animals suffering from zoonotic diseases must be destroyed.

Mode of Slaughtering: Slaughtering must be performed by a licensed individual from the Punjab Halal Development Agency. Slaughter must be done by a Muslim invoking the name of Allah. The animal must be slaughtered in a specific way without cutting the spinal cord, and blood drained properly. The method differs for short and long necked animals, defined as "Zibah" and "Nahar" respectively.

Dressed Animals: Carcasses must be inspected post-cleaning and de-skinning by the authorized Veterinary Doctor. Only those approved as fit for human consumption can be removed from the premises. Any unfit carcass is to be buried or destroyed.

Post Slaughter Conditions: No entrails and offal can be removed until properly cleaned. Infusing water into meat or lungs is prohibited. Meat sales within slaughterhouse premises are forbidden. Meat must be transported in clean receptacles covered from public view. The disposal of all other animal parts is under the directive of the in-charge.

Prohibition of using unlicensed Slaughterhouse: Unauthorized slaughterhouses are subject to inspection by the Municipal Officer (Services) and the in-charge of the slaughterhouse. Animals and meat found in such places will be seized and disposed of according to relevant bye-laws. Any carcass or meat ordered to be destroyed must be destroyed/buried immediately.

The rules outline several restrictions and obligations regarding the operation of a slaughterhouse. Persons with skin conditions or without proper authorization are prohibited from entering a slaughterhouse. Butchers or flayers are allowed to slaughter and dress a maximum of 5 cattle or buffaloes or 25 sheep and goats per day. All actions within the slaughterhouse must avoid creating disturbances or nuisances.

The local government is responsible for maintaining sanitation and removing unwanted offal, refuse, or other offensive material. The slaughterhouse must be properly paved, well-ventilated, and provided with a constant supply of water. It should be regularly whitewashed and kept clean.

Private slaughterhouses need a license from the local government to operate. The license is valid until June 30 of the next year and must be renewed annually on or before July 1. It is non-transferable.

All animals slaughtered in a private slaughterhouse must be inspected and stamped by a Veterinary Officer nominated by the local government. Fees for new licenses, renewals, and slaughtering of each animal are to be levied and collected by the local government.

The local government must also facilitate public awareness about these rules and potential health hazards of slaughtering outside proper facilities. Persons aggrieved by any order can file an appeal. The In-Charge of Slaughterhouse is responsible for enforcing these rules, supported by the Municipal Officer.