

# Design of the Goat/Sheep Holding Cage Slaughtering System (Cage for Animal Slaughter): Innovations and Prospect

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## Article Info

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## Abstract:

The main objective of inventing the goat/sheep holding cage-slaughtering mechanism or cage for animal slaughter was to seek solutions for the slaughtering mechanism from the traditional operation with four to five persons manning it to a one-person operation. The development of this innovation is for Chak Chee Bor Enterprise. This mechanism consists of a goat/sheep holding cage of 1.23m (height) X 1.60m (length) X 0.97m (width). The overall purpose of using this goat/sheep holding cage is to keep the goat/sheep calm, whilst minimizing the danger of unnecessary injury to both the animal and worker. The goat/sheep holding cage-slaughtering mechanism consists of a head latch (neck yoke or head gate) to hold the animal's neck and head, and two wooden boards to hold or gently clamp the body of the animal, with the purpose to calm the animal and ensure that it does not move. The round-shaped iron pieces at the end of both sides of the holding cage enable the mechanism to be swung aside or tilted at a 45o angle before the final stage of the ritual. This holding cage-slaughtering mechanism that comes with an adjustable head latch is able to accommodate different sizes of animals.

## Article History

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## INTRODUCTION

Slaughtering is one of the ways to end an animal's life and to make sure that it is done in a *halal* way.

*Thayyib* describes slaughtering as killing an animal in a healthy, hygienic and *halal* way [2]. Similarly, according to *Tatmin*, it is necessary to

make perfect all slaughtering methods used. *Syara'* states that slaughtering a halal animal is eliminating its life according to the *Hukum Syara*, for it to be safely consumed by Muslims [3][9].

The animal is slaughtered by cutting off the main blood vessels in the neck to hasten the bleeding and death of the animal. In most countries, the animal is knocked unconscious or stunned before they are slaughtered [1]. However this is not carried out in the majority of Muslim countries because the animal could die or be severely injured even before being slaughtered and this could torture the animal. This issue is still being debated in other Muslim countries especially in the setting of halal standards in developed countries [4][8].

Animal slaughter is opposed by many animal welfare activists because it is thought to cause pain. However, the Muslim Council of Britain scholars argue that direct slaughtering in *halal* and *Kosher* methods do not cause pain because the cuts on the main blood vessels in the neck cause bleeding that stops blood flow to the brain, and, so, that the animal will not feel pain [5][10][11].

#### PROBLEM STATEMENT

Currently the manual slaughtering process of the goat/sheep require at least four to five people to hold down the animal. This traditional manual slaughtering is ineffective as it is time consuming and costs a lot as four to five workers are needed to hold down just one animal.

With this problem, the researchers have come up with the invention of a goat/sheep holding cage-slaughtering mechanism (cage for animal slaughter) to solve the current problem of traditional manual slaughtering and to offer a solution for the slaughtering mechanism from the

traditional operation with four to five persons to a one-person operation.

#### OBJECTIVES

The main objective of inventing the goat/sheep holding cage-slaughtering mechanism (cage for animal slaughter) is to solve the problem of the traditional manual slaughtering operation that uses quite a number of labourers or workers, and substitute it with an alternative solution for the slaughtering mechanism that require only one-man labourer/worker.

#### COMPARISON OF TRADITIONAL SLAUGHTERING METHOD WITH THE DESIGN OF GOAT/SHEEP HOLDING CAGE-SLAUGHTERING SYSTEM (CAGE FOR ANIMAL SLAUGHTER)

##### A. *Traditional Manual Slaughtering Method*



Figure 1: The Traditional Manual Slaughtering Method

(Source: Google – goat slaughtering  
'penyembelihan kambing')

### Process of Slaughtering

#### Requirements:

1. The *halqum* (trachea) and *marih* (oesophagus) must be severed completely.
2. The act of slaughtering must be with *niyyah* (intention) in the name of Allah.
3. If a person holds a knife in his hand but it drops it from his hand, and in the process cuts the animal's neck and severs the *halqum* and *marih*, it is not considered an act of slaughtering in the name of Allah as there has been no intention to slaughter, and so, it is not *kosher* to eat the meat of that animal.
4. The animal must die because of the act of slaughter (and not due to other actions that may have caused death to the animal during the slaughter).

When it is certain that there has been sufficient conformance to all the *rukun-rukun* (fundamental rules) and conditions related to the slaughter of animals in Islam, the animal is deemed *halal*; except when the slaughter is intended for other than *Allah* or when it is mentioned during the slaughtering that it is for other than in the name of *Allah*, even though the act of slaughter has conformed to all the *rukun-rukun* and conditions of the slaughter [6][7][8].

The Words of *Allah Subhanahu wa Ta'ala*:  
"Verily, *Allah* has forbidden you dead carrion, blood, pork, and slaughter by mention other than *Allah*." (*Surah Al-Nahi*: 115)

### B. The Design of the New Slaughtering Method Using a Goat/Sheep Holding Cage Slaughtering System (Cage for Animal Slaughter)



Figure 2: Side (Angle) View of the Goat/Sheep Holding Cage Slaughtering Mechanism (Cage for Animal Slaughter)





Figure 3: Front and Back View of the Goat/Sheep Holding Cage Slaughtering Mechanism (Cage for Animal Slaughter)

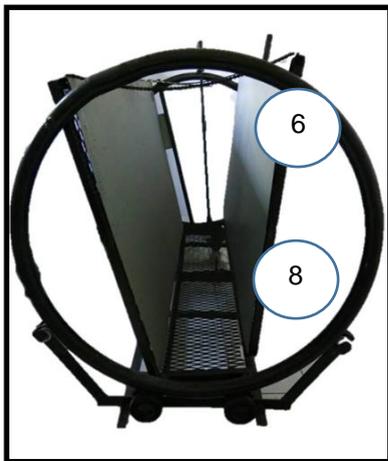
Figure 4: Left and Right View of the Goat/Sheep Holding Cage Slaughtering Mechanism (Cage for Animal Slaughter)



Figure 5: Top View of the Goat/Sheep Holding Cage Slaughtering Mechanism (Cage for Animal Slaughter)



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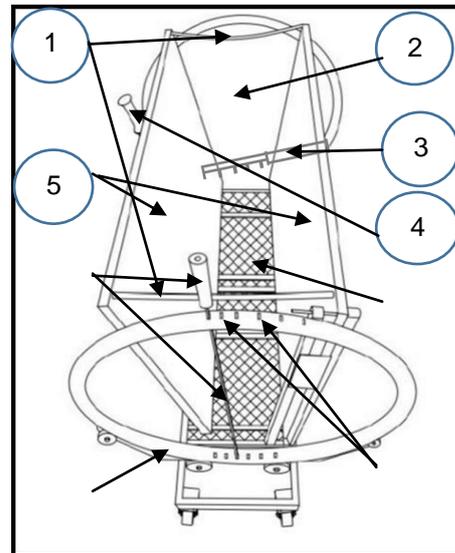


Figure 6: Parts of the Goat/Sheep Holding Cage Slaughtering Mechanism

(Cage for Animal Slaughter)

Table 1: Parts of the Design Mechanism

ITEM NO.	PARTS OF THE MECHANISM	REMARKS
1	Chain to hold the two wooden boards	
2	Animal inlet	
3	Latch to lock the animal inside the cage	
4	Wooden board holder	Adjustable
5	Two wooden boards to hold down the animal's body	
6	Hard metal plate for the animal to stand on	
7	Holder with an adjustable latch to hold the animal's neck and to make sure the animal's head juts out from the cage for easy slaughter	Adjustable
8	Adjustable latch that can be operated according to the size of the animal's neck and head	Adjustable
9	Round iron piece	

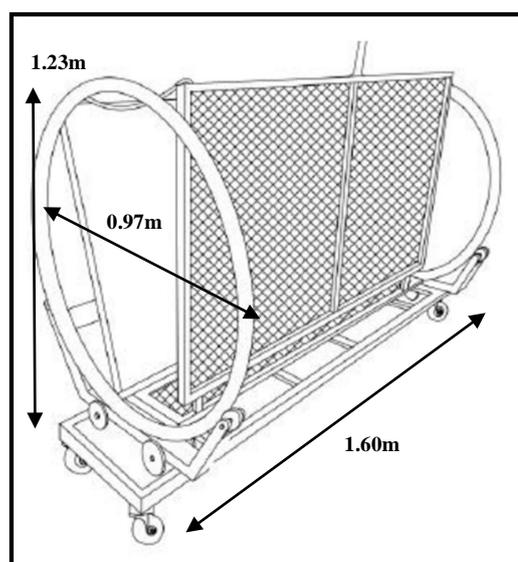


Figure 7: Dimensions of Goat/Sheep Holding Cage Slaughtering Mechanism  
(Cage for Animal Slaughter)

*C. Standard Operation Procedure (SOP) for the Design of the Goat/Sheep Holding Cage Slaughtering System (Cage for Animal Slaughter)*

1. The animal is placed at the animal inlet where it can enter the cage.
2. The animal then stands on the hard metal plate.
3. The operator must make sure that the animal is placed inside the cage properly with its head and neck jutting out.
4. The operator will have to hold the wooden board holder and pull one side of the wooden board towards him to hold and clamp the animal's body.
5. The latch on top of the other wooden board is used to lock down the animal's body.
6. The adjustable neck latch is used to lock the animal's neck according to the size of its neck and head.

7. The operator will pull and tilt the round iron piece towards him until the animal is positioned at 45° degree and use another latch to lock the position of the animal.
8. Now the animal is ready to be slaughtered.



Figure 8: Application of the Goat/Sheep Holding Cage Slaughtering Mechanism (Cage for Animal Slaughter)

#### *D. Usefulness and Novelty of application*

This mechanism has been used by Chak Chee Bor Enterprise based in Nilai, Negeri Sembilan.

Operation time is decreased by 75% and the number of workers required are reduced from four or five to only one person. The overall cost of the process is much lower compared to the manual traditional slaughtering method.

Novelty and application - It has an adjustable head and neck latch to hold the animal's head still and a gate that swings aside to catch the animal easily. The contraption is adjustable to accommodate the various sizes of animals.

#### *E. Environmental Friendliness (Advantages)*

This invention is environmental friendly as it does not use any diesel or other fuel that can produce smoke. It is installed with the SOP of the slaughtering process, especially waste management. The designing the goat/sheep holding cage-slaughtering system or cage for animal slaughter is solved by using this prospect innovation for the slaughtering system from the traditional operation with four to five persons manning it to a one-person operation.

#### LIMITATION AND SCOPE OF STUDY

The limitation of this Goat/Sheep Holding Cage Slaughtering Mechanism or Cage for Animal Slaughter is that it can only be used for goat or sheep.

#### CONCLUSION AND RECOMMENDATION

This adjustable Goat/Sheep Holding Cage Slaughtering Mechanism or Cage for Animal Slaughter calms down the animal, making it easier for the operators to work compared to that of the traditional manual method of slaughter. In addition, operating cost is minimal and the mechanism is more productive. This mechanism has been used by Chak Chee Bor and they are very satisfied with it. However, there is still room for improvement on its quality and productivity.

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