Sales proportion of beef and goat parts at traditional markets in medan city

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Abstract. This study aims to determine the sales proportion of beef and goat based on their parts, the balance of their supply and demand in traditional market in Medan City. This research was conducted for one month from August to September 2017. The research was conducted in five traditional markets located in Medan City namely Olimpia, Petisah, Simpang Limun, Sei Kambing and Brayan. The population in this study were beef and goat traders consisting of 41 beef traders, 6 goat meat traders and 2 traders of both types of meats in five traditional markets e the number of samples 33 people. The type of data used is quantitative data which includes the sales amount of beef and goat meats. The results showed that beef sales proportion based on the sold parts in traditional market in Medan City, the most sold is the leg meat as much as 166.568.9 kg (60.24%) then the lowest is the lower leg about 3.126 kg (1.13 %). For the sales proportion of goat meats in the traditional markets in Medan City, the largest part is the meat 9.230.3 kg (88.6%) from the total sales of goat meat and the least is the lower leg as much as 427.2 kg (4.1%). The result of this study indicated that there a balance between supply and demand of beef and goat in these traditional markets in Medan City.

1. Introduction

Livestock is a very important part of agricultural sector, and to Indonesia’s economy overall, and plays a vital role in many different aspects of national and daily life, including in providing national food security, as nutrition, in generating income and savings, and in many social and cultural functions. Meats from livestock play a significant role in the livelihood of many people living in smallholder farms in rural areas, particularly regarding their family income, nutrition and welfare[1]. Livestock is part of the agricultural sub-sector that has a great opportunity to develop and play a very important role in the provision of food needs, especially animal protein. The nutritional need of people for livestock products will increase every year as population growth and as society's awareness of the importance for nutrition is useful to improve the quality of their life[2].

The demand for meat in Indonesia is growing as a result of urbanization, the growing population, and the rapid growth of the urban middle class economy and its tendency to spend money on food[3]. According to Yulianto and Saparinto[4], beef cattle is one of the main meat-producing livestock in Indonesia. However, domestic beef production has not been able to meet the nutritional needs of people
due to higher population and lower livestock products. A low population of beef cattle tend to cause 
most of the animals kept by small-scale farmers with limited land and capital. The fulfillment of animal 
protein needs is closely related to the domestic meat supply. Currently, domestic demand for meat has 
not been matched by adequate supply. Sudaryanto and Erizal [5] reported that efforts to increase people's 
food security especially related to livestock products are seen from their ability to provide livestock 
products. It should also be noted how far the effort developed is able to increase people's purchasing 
power. Medan City is the capital of North Sumatera Province whose people consume beef and goat. The 
population of Medan City increased from year to year with the number reaching 2,210,624 people in 
2017.

While the production of beef in Medan City fluctuated tend to increase from year to year. But this 
increase in production has not been able to offset the population growth rate of Medan City so that there 
is an imbalance that causes prices to continue rising in the market. Goat meat production in 2017 
amounted to 3.546.08 tons for the region of North Sumatra with a total consumption of 3,484.44 tons. 
Production and consumption tends to decline compared to previous year. Medan City has a high 
potential of traditional market. Traditional markets deserve to be accounted for community 
development. The market is a place to transact the sale and purchase of various types of community 
needs, whether primary, tertiary or secondary. Traditional markets provide enough commodities and 
sold in groups. The purpose of this study was to investigate sales proportion of beef and goat parts 
tenderloin, sirloin, leg, gravel, lower leg, chop, and ribs) at traditional markets in Medan City. The 
support of governance toward the distribution will make the positive idea to increase the economic. Like 
the support of transportation[6], or building the airport to distribute the materials for economic growth[7].

2. Method

This research was conducted in five traditional markets in Medan City. The location of study is 
determined purposively based of the number of traditional market in Medan City than modern markets. 
The selected traditional markets are Central Market in sub-district Medan Kota, Petisah Market in sub-
district Medan Petisah, Simpang Limun Market in sub-district Medan Amplas, Brayan Market in Brayan 
and Sei Kambing. These traditional markets were able to represent all central, east, west, south and north 
of Medan City. The markets selection was also based on the largest number of traders from the area 
where all traders in these location will serve as a source of meat sales data during the survey period. 
This research was conducted from August to September 2017.

This study uses primary and secondary data that are qualitative and quantitative. Primary data is data 
obtained from direct interviews with meat traders or retailers that include sales volume and specific 
section by using questionnaire to respondents. The questionnaire contains open and closed questions 
(structured). Open questions include questions whose answers are descriptions or are not provided while 
closed questions contain questions whose answers have been provided. The questionnaire is addressed 
to the respondents involved during the marketing process. Determination of marketing agency 
respondents conducted by snowball sampling method. The population in this study were beef and goat 
traders in Medan City Market Center, Petisah, Simpang Limun, Sei Kambing, and Brayan with the total 
of 49 people. To determine the number of samples used descriptive statistics by using the Slovin 
formula[8] as follows:

Where:
N = Total Population
n = Number of Samples
e = Allowance Rate (10%)

The 10% clearance rate is used on a population basis not more than 2000 according to Sugiyono[9]. 
So the number of samples obtained is n = 32.8 = 33 samples. The samples obtained will be given a 
questionnaire question that has been provided. So the minimum sample used in this study were as many 
as 33 respondents. Sampling is done by simple random sampling that is sampling technique where
researcher in choosing sample by giving equal opportunity to all member of population to be set as member of sample.

3. Result And Discussion

3.1. Sales Proportion Based on Goat Meat Sections

Proportion of beef sales during August - September 2017 in traditional markets in Medan City is presented in Table 1.

| Number | Section of Beef Sales | Meats (kg/month) | Percentage (%) |
|--------|------------------------|------------------|----------------|
| 1      | Tenderloin             | 8.733,6          | 3.16           |
| 2      | Sirloin                | 11.965,3         | 4.33           |
| 3      | Leg                    | 166.568,9        | 60.24          |
| 4      | Super ribs             | 14.770,2         | 5.34           |
| 5      | Ordinary ribs          | 17.854           | 6.46           |
| 6      | Chop                   | 37.889,6         | 13.70          |
| 7      | Gloves                 | 11.790,3         | 4.26           |
| 8      | Tail                   | 3.782,05         | 1.37           |
| 9      | Lower leg              | 3.126            | 1.13           |
| Amount |                       | 276.480          | 100            |

Based on Table 1, it can be seen that the proportion of beef sales based on the parts sold in some traditional markets in Medan City, the leg got the biggest portion of selling beef parts as much as 166,568.9 kilograms (60.24%), this is because in one cow the largest portion of meat that is thighs. The piece of beef in this section is very thin and more or less very tough. Usually this meat is used to mix meat pizza, beef steak, satay, rendang, corned beef and can be processed into all types of food. The average consumer is entrepreneurs such as meatball sellers, restaurants, restaurants and others, while the lowest is 3.126 kg (1.13%). This is because part of this meat chosen by the processor. Legs are used as a mixture of meatballs and soup sauce. However, the processors are usually more likely to use the chopped portion. Legs are also rarely used by consumers of housewives.

3.2. Sales Proportion Based on Goat Meat Sections

The proportion of sales is the number of sales of goods or services performed by the seller. The total proportion of goat meat sales in traditional markets in Medan City can be seen in Table 2.

| Traditional Markets | Meats  | Head | Lower leg |
|---------------------|--------|------|-----------|
| Olimpia             | 300,05 | 22   | 11,1      |
| Olimpia             | 1,197,5| 124  | 62,4      |
| Simpang Limun       | 1,186  | 88   | 56,4      |
| Simpang Limun       | 273,75 | 25   | 50,1      |
| Sei Kambing         | 1,138  | 73   | 17,4      |
| Sei Kambing         | 1,558  | 135  | 74,1      |
| Petisah             | 1,077,5| 92   | 44,1      |
| Brayan              | 2,499,5| 191  | 111,6     |
| Total               | 9,230,3| 750  | 427,2     |
| Percentage (%)      | 88,6   | 7,3  | 4,1       |
3.3. Characteristics of marketing institutions and reasons for purchasing beef and goat parts
Characters of respondents observed in this study include the sex of respondents. Respondents involved in the marketing of beef and goat in traditional markets of Medan City have different gender, but dominated by male gender with 32 traders (65.30%). While the number of female traders amounted to 17 people (34.70%). The large number of males versus females associated with physical activity such as ordering, transporting and cutting by traders requires greater time and effort. From the results of the questionnaire showed that 100% of traders admit there is no special permission to buy meat from breeders or beef and goat sales companies. Although traders sell beef cattle from cattle fattening companies but cattle traders also receive and sell local cattle that are the result of livestock farming, especially in goat traders. Each market usually has one or more large merchants who are tasked with providing meat to smaller traders. The commonly used system is the wholesale system, i.e. the small traders do not have to buy one cow but can buy half the beef from one whole, or just buy a certain part. Although there are also some traders who buy their own cattle and cut it into government-owned “Rumah Potong Hewan” (RPH) or private.

As for goat meat does not apply bulk system but must buy one goat. 16.27% of traders get their beef from the government RPH while 83.73% of traders buy their cattle from cattle fattening companies or from local farmers and then slaughtering cattle in a private RPH. For example RPH Tani Asih with the source of cattle can come from PT. LAL or PT. Ariffa Global. For goat meat alone 100% traders get goat meat from local farmers. The one-week meat offer for the whole market is 68,666.6 kg with the number of meats sold during the week totaling 68,658 so the difference is 8.6 kg. The amount of meat this difference will be frozen and then adjusted to the amount of meat to be offered in the next week so as to achieve the balance of supply and demand in the market. For beef selling price is usually varied depending on the part of the beef Figure 1.

![Figure 1. Fluctuation of selling of beef in the traditional markets of Medan City](image-url)

Data from Figure 1 showed that 41 of 43 traders (95.34%) of beef said that the thighs became part of the most sold meat in the supply and demand activities. While 2 out of 43 traders (4.65%) said the rest of the chopped and meat has become the most sold commodity. For the main factors determining the sale of beef cattle most often affected the consumers buying interest is a factor of the need for certain functions. That is, buyers buy the beef part for a beef processing purpose. The brief description of each part of beef as follows: (1) Leg : the main factor of consumer decision to buy meat of this section is the availability of this section is mostly on the market (90%) which supports all traders at the research site is able to sell this section. This meat section is also usually used as a variety of preparations, especially rendang beef which is often the main menu both in daily events and events and business activities processed beef. Another factor that affects the purchase of this section is the price that is below the price of the type of meat part has (10%); (2) Tenderloin and Sirloin: the main factor in the consumer's decision to buy the inner meat portion is the purpose of a certain function (90%), is some processed meat can only be served with the type of this meat. While the selection of sirloin because the processed meat can
have mixed with a little fat. Like steak and meat for satay. Sirloin was prefer than tenderloin cause the price is under the tenderloin (10%); (3) Ribs : the main factor of consumer decision makers to buy this meat part is the purpose of certain functions (100%), i.e. some processed meat can only be served with the type of rib meat. Usually the super ribs contain more carcass than ordinary ribs. So the super ribs are commonly used for processed soup ribs, gulai ribs, and etc.

While the selection of ordinary ribs due to the usual price ribs that are below the price of super ribs is the reason some people use it mainly little seller players (75% of the voter meat ribs); (4) Chop: the main determinant of consumers to buy this meat part is the price is much cheaper (100%) for the processed meatballs industry, nuggets, sausages, and so on. Especially small and medium business actors. Other factors also suggest that this section is best suited for some types of processed foods; (5) Kikil and tail: the main factor to buy this meat part is the purpose of certain functions (100%), i.e. some processed meat can only be served with this type of meat like tauco Kikil, gravel curry and gravel soup, oxtail soup/tail; (6) Feet: the main factor to buy this meat part is the purpose of certain functions (100%), i.e. some processed meat can only be served with this type of meat such as goat leg soup. Another factor for the use of beef's feet is as an additional ingredient in some types of processed foods such as soup/sauce made from cow bone marrow; and (7) Goat head: the main factor to buy this meat part is the purpose of certain functions (100%), i.e. some processed meat can only be served with this type of meat such as goat head curry and goat's head soup.

4. Conclusion
The proportion of beef sales in the traditional markets in Medan City during the period of August to September 2017 was the highest was 166,568.9 kg (60.24%), while the lowest was 3,126 kg (1.13%). For the sales volume of goat meat in the traditional markets in Medan City, the largest part was the meat of 9,230.3 kg (88.6%), the lowest was the leg part of 472.2 kg (4.1%). There was a balance between supply and demand for beef in these traditional markets. The main determinant factor (90.90%) of consumers in deciding to purchase certain parts of beef and lamb meat that is based on certain functions using the meats.

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