

## THE EFFECT OF RELIGIOUS FESTIVITIES ON THE SUPPLY AND DEMAND OF SMALL RUMINANTS

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### Abstract

Small ruminants play an important role in religious festivities, mainly in *Idul Adha*, therefore the objectives of this study is to provide an overview of the small ruminants market system especially the increase of the demand during *Idul Adha* celebration. The main objects of the research were small ruminants markets in three agro eco-zones, namely three markets in Bantul (low zone), four markets in Sleman district (middle zone), and Kulonprogo (high zone) districts, Yogyakarta Province. Each market was investigated two times in normal condition and two times a few days before *Idul Adha* celebration. The data to be investigated consist of supply of small ruminants, quantity of small ruminants being sold, price and it bodyweight (estimated from body length and girth by using Lambourne method). The results provide enough evidence that *Idul Adha* have a significant effect on the small ruminants markets. Both zone and market situation have significantly effect ( $P < 0.01$ ) on the small ruminants offered, being sold and the price of small ruminants, except for the bodyweight. Compared to the normal condition, sheep supply, demand, price and bodyweight during *Idul Adha* increase by 163.40%; 242.00%; 70% and 35.93%, respectively while goats increases by 202.50%; 265.82%; 49.30% and 18.34%. The findings provide enough evidence that *Idul Adha* have a significant effect on the small ruminants markets. All of the parameters involved in small ruminants markets tend to be drastically increase, mainly the supply, demand and price.

Key words: Small ruminants, Supply and demand, Market situation

### Introduction

Small ruminants are an important but neglected resource in developing countries. They are closely linked with the poorest people both in pastoral systems and complex crop-livestock systems. Their greatest value in farming systems is associated with small size, low individual cost, rapid turnover, and the conversion of feed resources not directly eaten by man: natural pastures, fallow grazing, browse and crop residues. The reasons for keeping small ruminants may include low feed

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requirements, simple housing needs or the diversification or increase and flexibility of farm income (Ivory and Semali, 1987).

Since 95% of the Indonesians are Moslem, small ruminants play an important role in religious festivities, mainly in *Idul Adha* and *Idul Fitri* celebrations. This is because each Moslem's family who has a higher living standard is obliged to slaughter a sheep or a goat. The farmers also use small ruminants in undertaking religious pilgrimages, the observance of birth, deaths, marriages and other rituals. The role of small ruminants in religious festivities is the same irrespective of the agro-ecozone. For the poor farmers, it is hard if not impossible to slaughter large ruminants for religious celebrations, therefore the availability of small ruminants during that period is absolutely important. Selling small ruminants in these situations also gives a higher gain to the farmers as the price increases over the normal price due to the greater demand (Budisatria, 2000). This situation may be feasible for the small ruminant farmers to generate a cash income that is regularly distributed throughout the year, instead of the reality that small ruminants are hardly suitable to generate a daily cash income.

The availability of markets for livestock products is a key factor and market pricing for livestock products is necessary to put livestock on the profitable level and make inputs produced on-farm attractive (de Haan *et al.*, 1996). However, market prices and rewards to the farmers in Indonesia seem to be less attractive. There is no marketing price intervention done by the government, the price of small ruminants is closely linked with demand and supply. The demand for sheep and goats in Indonesia is relatively stable throughout the year, except near the religious festivities, where the demand and price of small ruminant increases dramatically (Djajanegara and Chaniago, 1988), for example, around December (*Idul Fitri* celebration) and in March (*Idul Adha* celebration). Market volume during the month of *Idul Adha* and *Idul Fitri* doubles if not triples. Prices drop rapidly when the farmers have urgent cash needs due to lack of staple food, crop failures, preparation of paddy fields, and paying school fees for their children. There is some evidence that more animals are sold from pastoral and herds on those situations so the price is low (Gatenby, 1986).

Knipscheer *et al.* (1987) said that main market of small ruminants is the village collector and the local market. In Java, where farmers generally have easy access to daily or weekly markets, farmers more commonly trade through the local village collector.

As much as 40% of the animals sold in Central Java are sold for consumption outside the province. In general, marketing data tend to be underestimated, possibly because along with the registration of animal traded. In Central Java, the market volume of small ruminants is estimated to be at least 20% higher than the figure reported by the provincial livestock service (Knipscheer *et al.*, 1987).

The objectives of this study is to provide an overview of the small ruminants market system especially the increase of the demand during *Idul Adha* celebration, and to explore how much small ruminants price will increase compared to the normal condition.

### Materials and methods

The main objects of the research were small ruminants markets in Yogyakarta Province. A total of ten small ruminant markets, three markets in Bantul, four markets in Sleman and three markets in Kulonprogo districts. These districts represent low, middle and high zones respectively. The low, middle and high zones are defined as the area < 100 m, 100 – 500 m and > 500 m above sea level, respectively. Primary data were gathered from a survey in the district mentioned above. Each market was investigated two times in normal condition and two times a few days before *Idul Adha* celebration, using structural questionnaires. The data to be investigated consist of supply of small ruminants, quantity of small ruminants being sold, price and it bodyweight (estimated from body length and girth by using Lambourne method). These data gathered by direct interview in small ruminants market when the bargaining process between the seller and buyer was finished, continued by measurement of small ruminants body length and girth. In addition, interview was also conducted for the seller in the roadside, since the unique tradition that before the *Idul Adha* celebration coming, many people selling small ruminants in the roadside, although in their life, they do not small ruminants seller. A total of 42 sellers, most of them are located in Sleman (24 sellers) district, while the rest are 9 sellers in Bantul and 9 sellers in Kulonprogo district.

Small ruminant market data was analysed using factorial design while data of roadside seller analysed by one-way analysis of Completely Randomise Design and continued by Tukey's test for the significant effects.

### Results and Discussion

Table 1 presents an overview of the sheep market situation for the normal and during *Idul Adha*. Both of zone and market situation have significantly effect ( $P < 0.01$ ) on the sheep offered, being sold and the price of sheep, except for the bodyweight. On average, sheep offered in *Idul Adha* generally increase about 163.40% compared to the normal condition with the highest increase was in the high zone (Kulonprogo) about 2.52 times. The high increase of sheep supply followed by the increase of sheep being sold by 242% with the middle zone shows a drastically increase. However, the percentage of sheep being sold compared to the supply was not so high in both market situations. In the normal condition, the percentages were 26.59%, 13.97%, and 27.50% respectively for low, middle and high zones, and 18.81% 33.94% and 24.82% during *Idul Adha*.

Table 1. Market overviews of sheep during *Idul Adha* and normal condition in different zones

Market Situation	Small ruminants markets			
	Bantul	Sleman	Kulonprogo	
Sheep offered (Supply)	Normal (head)	331 <sup>a</sup>	358 <sup>a</sup>	40 <sup>b</sup>
	<i>Idul Adha</i> (head)	686 <sup>a</sup>	825 <sup>a</sup>	141 <sup>b</sup>
	<i>Increase (%)</i>	107.25	130.45	252.50
Sheep being sold (Demand)	Normal (head)	88 <sup>a</sup>	50 <sup>a</sup>	11 <sup>b</sup>
	<i>Idul Adha</i> (head)	129 <sup>a</sup>	280 <sup>b</sup>	35 <sup>c</sup>
	<i>Increase (%)</i>	46.59	460.00	218.18
Price	Normal (Rp)	350,000 <sup>a</sup>	385,000 <sup>a</sup>	325,000 <sup>a</sup>
	<i>Idul Adha</i> (Rp)	722,000 <sup>a</sup>	545,000 <sup>b</sup>	528,000 <sup>b</sup>
	<i>Increase (%)</i>	106.29	41.55	62.46
Bodyweight of sheep being sold	Normal (kg)	25	25.20	25
	<i>Idul Adha</i> (kg)	41 <sup>a</sup>	31.50 <sup>b</sup>	29.70 <sup>b</sup>
	<i>Increase (%)</i>	64.00	25.00	18.80

<sup>a, b, c</sup> Different superscript denote significant differences between means within rows (P<0.01)

Table 2. Market overviews of goats during *Idul Adha* and normal condition in different zones

Market Situation	Small ruminants markets			
	Bantul	Sleman	Kulonprogo	
Goats offered (Supply)	Normal (head)	69 <sup>a</sup>	72 <sup>a</sup>	361 <sup>b</sup>
	<i>Idul Adha</i> (head)	390 <sup>a</sup>	107 <sup>a</sup>	699 <sup>b</sup>
	<i>Increase (%)</i>	465.22	48.61	93.63
Goats being sold (Demand)	Normal (head)	36 <sup>a</sup>	8 <sup>a</sup>	57 <sup>b</sup>
	<i>Idul Adha</i> (head)	83 <sup>a</sup>	41 <sup>a</sup>	207 <sup>b</sup>
	<i>Increase (%)</i>	130.56	412.50	263.16
Price	Normal (Rp)	333,000	350,000	350,000
	<i>Idul Adha</i> (Rp)	572,000 <sup>a</sup>	488,000 <sup>b</sup>	478,000 <sup>b</sup>
	<i>Increase (%)</i>	71.77	39.43	36.57
Bodyweight of goats being sold	Normal (kg)	24	25.00	26
	<i>Idul Adha</i> (kg)	33	29.70	28.40
	<i>Increase (%)</i>	37.50	18.80	9.23

<sup>a, b</sup> Different superscript denote significant differences between means within rows (P<0.01)

The increase price of sheep being sold seems to be not related to the increase of bodyweight, it may be caused by high demand during *Idul Adha*, except for low zone. Price of sheep increase 70.10% while bodyweight increase 35.93%. The highest increase of price and bodyweight was in low zone around 106% and 64% respectively.

The similar figures found on market situation of goats, as presented in Table 2. Market situations have significant effect ( $P < 0.01$ ) on the supply, demand, price and bodyweight. The differences of zone have also significant effect, except for the bodyweight. The highest increase of goats being sold was in the middle zone, though in quantity it was relatively low compared to the low and high zones, each small ruminant market can only sold approximately two goats per day market and ten goats during *Idul Adha*. Compared to sheep, there were a drastically increase of goats supply and demand during *Idul Adha*, 202.50% and 265.82% respectively, on the other hand price and bodyweight of goats being sold tend to be lower than sheep. Price increase by 49.30% while bodyweight increase by 18.24%. Surprisingly, the percentage of goats were sold compared to the supply seem to be relatively stable in both market situations. The percentage was 26.4% in normal condition and 29.7% during *Idul Adha*, it was higher than percentage of sheep.

Table 3. An overview of the roadside small ruminants sellers during the period of Islamic month (*Idul Adha*)

Parameters	Small ruminants	Regions		
		Bantul	Sleman	Kulonprogo
Supply (head)	Sheep	31 <sup>a,b</sup>	43 <sup>a</sup>	7 <sup>b</sup>
	Goats	4 <sup>a</sup>	3 <sup>a</sup>	32 <sup>b</sup>
Demand (head)	Sheep	21 <sup>a</sup>	16 <sup>a</sup>	2 <sup>b</sup>
	Goats	2 <sup>a</sup>	1 <sup>a</sup>	19 <sup>b</sup>
Price (Rp)	Sheep	700,000	606,250	583,000
	Goats	544,000	506,000	458,000
Percentage of small ruminants being sold (%)	Sheep	65.56 <sup>a</sup>	39.19 <sup>a</sup>	17.36 <sup>b</sup>
	Goats	38.10 <sup>a,b</sup>	12.35 <sup>a</sup>	49.01 <sup>b</sup>

<sup>a, b</sup> Different superscript denote significant differences between means within rows ( $P < 0.01$ )

Table 3 presents an overview of the roadside small ruminants sellers. The data show that most sellers in low and middle zones offer sheep rather than goats, while sellers in high zone tend to be supply goats. Only a few sheep being sold in low and middle zones, in contrast more goats were sold in high zone. It was relatively same

with the figure in the small ruminant markets. However, the percentage of small ruminants being sold during *Idul Adha* were higher than what can be found in the markets, it was 49.04% for sheep and 33.12% for goats. There is a tendency that increase of sheep being sold will reduce goats demand, on the other hand, a higher goats demand a lower sheep being sold.

The findings provide enough evidence that *Idul Adha* have a significant effect on the small ruminants markets. All of the parameters involved in small ruminants markets tend to be drastically increase, mainly the supply, demand and price. Approximately, small ruminants being sold increase 2.5 times during *Idul Adha* and the prices increases by 60% compared to the normal condition. Soedjana (1982) reported that market volume during the month of *Idul Adha* doubles, if not triples and prices tend to increase by as much as 25%. In addition, Priyanti *et al.* (1995) found that 92% of sheep have bought during the period of Islamic month, the rest were bought indefinite time. One reason given for this increase was that each Moslem's family who has a higher living standard would like to celebrate the *Idul Adha* by slaughter a sheep or a goat rather than cattle. When the market survey was conducted, it can be found that each cattle being sold was equal to ten small ruminants, this finding need to be further investigation. However, the increase of small ruminants demand during *Idul Adha* mainly in the middle zone closely linked to the livelihood and consumers preference, the better living standard, the higher demand of small ruminants. It was supported by gross regional domestic product (GRDP) per capita, Sleman (middle zone) district has highest GRDP per capita, namely 449.59 million rupiahs, while Bantul and Kulonprogo district were 2.33 and 2.06 million rupiahs respectively (Anonymous, 2000).

Apart from the consumer's preferences, supply and demand of small ruminants during the month of *Idul Adha* affected by the production potential of the zone. In low zone, the predominant type of small ruminants are sheep while in high zone are goats, therefore there is tendency that in low zone market were dominated by sheep while in high zone market were dominated by goats. In the middle zone, sheep dominated supply and demand, it could be caused by the high supply of sheep from outside region.

The high percentage of small ruminants being sold in the roadside market can be understood. Generally, the sellers take place in the strategic roadside where the consumers have easy access to reach it. In addition, the prices seem to be similar to the small ruminant market prices.

Apparently, the figure of small ruminants markets during a period of Islamic month merely to support *Idul Adha* festivities. It can be found that all small ruminants offered and being sold during that time were male and more than one year old with 25 kg of body weight. It would be bring a significant effect on the price of small ruminants. Knipscheer *et al* (1986) said that during *Idul Adha*, good quality male animals carry a considerable price premium.

## Conclusions

The results of the study indicate that the period of Islamic month (*Idul Adha*) have an important role to change supply and demand of small ruminants. The implication of this finding is that *Idul Adha* will have impact for both producer and consumers. Small ruminant farmers as the producer will obtain higher benefit for the greater demand and higher prices, on the other hand, the consumers will get disadvantage by the increase of small ruminants price. This situation may be feasible for the small ruminant farmers to generate a cash income that is regularly distributed throughout the year.

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