

## **The Motivation of Sheep Farmers in the Villages around the IPB Campus to Improve Livestock Productivity**

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### **ABSTRACT**

Sheep have a significant role to help the government supply of food from animal protein for Indonesian people protein needs. The problems nowadays in Indonesian sheep farm is deficiency of productive ewes, decreasing in livestock production and low in business competitiveness. Therefore, increasing the sheep productivity is needed by motivating local farmers with their potential area and characteristics of their livestock production system. The present study was aimed to measure the level of a local farmer's motivation and evaluate factors affecting it in Cibanteng and Cikarawang Village Bogor District West Java. The analysis of data was done by descriptive statistical analysis and correlation analysis using Spearman rank test ( $r_s$ ). The study revealed that the external factor of Cibanteng village which had a relationship with the motivation of farmers was stimulating the production to fulfill the basic needs (score: 0494). While in Cikarawang village the internal factor which had relationship with the motivation of farmers was the level of the business development (score: 0532), and external factor that had relationship was stimulating the production of the basic necessities and social status (score: 0519).

**Keywords:** farmers, motivation, productivity, sheep.

### **INTRODUCTION**

Sheep is one of the local livestock in Indonesia. The Central Bureau of Statistics (BPS) recorded that population of sheep flocks in Indonesia in 2013 was 14 926 000 head. On national scope, sheep have an important role because it can support the fulfillment of the demand for meat. The national lamb or mutton consumption level was 44 356 tons in 2012 and 41 488 tons in 2013 (BPS, 2014).

Cibanteng and Cikarawang villages located on the periphery of the IPB Campus and has potential in developing sheep farms based on geographical condition of the villages. The condition of the farms in Cibanteng and Cikarawang villages were categorized as small scale businesses and maintained with a simple management. The main problems facing the farmers is the low of ewe population, as well as reproductive capability, and meat production (Kementan, 2010). Therefore, it needs an approach to motivate sheep farmers to increase the productivity of their farms.

The purpose of the study is to measure the level of motivation of farmers and evaluate factors that affect the motivation of farmers in improving the productivity of sheep in the villages around the IPB campus.

## MATERIAL AND METHOD

The study was conducted in November 2014 to February 2015 in two villages around campus IPB Dramaga Bogor West Java, i.e. Cikarawang Village Dramaga district and Cibanteng Village Ciampea district. The data collected were the primary data and secondary data. Primary data collected through observation and direct interviews with respondents. Interviews were conducted using a list of questions (questionnaire) that has been prepared. The respondents in this study were 40 sheep farmers from selected villages.

Data were analysed using *Spearman Rank* correlation test according to Gravetter & Forzano (2009):

$$rs = 1 - \frac{6\sum d^2}{n(n^2 - 1)}$$

Description:

- rs: the correlation coefficient of RS *Spearman*
- d: the difference between the two ranks of variable
- n: the number of observations

The observed variables include internal factors (i.e. the age of farmers, experience in raising sheep, educational status, and number of family member), external factors (i.e. sheep selling price, number of marketed sheep, inputs and production incentives), and the motivation of the farmer (i.e. basic needs, social status, and business development orientation).

## RESULTS AND DISCUSSION

**Sheep Productivity.** Productivity of farms were vary between one farms to another. Table 1 showed that there were variations in sheep productivity in the two village studied, especially in the sheep's birth weight aspect, and litter size. The differences were due to internal factors that were already attached to the farmers themselves, and external factors as well.

**Table 1 .** Productivity of sheep in Cibanteng and Cikarawang Village

Category	Total	
	Cibanteng Village	Cikarawang Village
The sheep kept by the time of the research (head)	7-8	7-8
Lamb kept on the previous year's (head)	7	7
Sheep sell age (years)	1-2	1-2
Selling lamb weights (kg)	25-30	25-30
The sheep sold last year (head)	6-8	6-8
Average of birth weights (kg)	2.11	1.65
Average of <i>litter size</i>	1.98	2.08

**Farmer' Internal Factors.** Table 2 showed that the farmers in both villages were categorized in productive age. This condition is expected to be able to support the development of sheep farms in both village, so they can play role in the economy development of a region. Most farmers in the two villages just graduated from elementary school i.e. 64.29% and 57.69% in Cibanteng and Cikarawang village, respectively. Education factor, both formal and non-formal became very important in rural communities empowerment (Sulistiyati, 2011). Low levels of formal education causing difficulty for famers to apply modern technology. The primary job of farmers in the two villages were in non-agricultural sector i.e. construction laborers, merchants, and drivers of online transport. This is due to sheep farms or agricultural sector in general could not able to fulfill family' needs of daily living (Priyanto, 2009; Winarso, 2010). Table 2 showed that most of farmers in studied villages have been raising sheep for long time relatively. This condition is profitable for developing sheep farms, because farmers have enough experience in dealing with the various obstacles on their farms. Number of farmers' family member in both villages were in the range 1 to 8 people with the average of 3 people. This condition meant that most farmers has a small family.

**Table 2.** Internal Factors of farmers in Cibanteng and Cikarawang Village

Category/ Factors	Percentage (%)	
	Cibanteng Village	Cikarawang Village
Age: productive age	78.57	69.23
Education: elementary school	64.29	57.69
Occupation: sheep farmers	14.28	19.23
Experience in sheep raising: 4-10 years	28.57	34.62
Number of family member: 1-3 people	60.71	65.38

**Farmer' External Factors.** Farmers usually sell their sheep to the middleman nearby or is already known or be sold to a nearby livestock market. Farmers in said that it is easier to sell livestock to middleman because farmers did not have to pay transportation cost. Farmers told that it was easy to find grass and forages for livestock feed. It was easy for farmers to buy materials for livestock housing, and others input as well. According to farmers, sheep farm is still not reliable for family income. Farmers still need production incentives, such as feed subsidies, capital aid, and price guarantees.

**Table 3.** External Factors of farmers in Cibanteng and Cikarawang Village

Category/ Factors	Score	
	Cibanteng Village	Cikarawang Village
Marketing aspect	2.99	3.15
Input availability	2.96	2.94
Production incentives	2.13	2.32
<b>Average</b>	<b>2.69</b>	<b>2.80</b>

1.00-1.75 = very difficult  
 1.76-2.50 = difficult  
 2.51-3.25 = easy  
 3.26-4.00 = very easy

**Sheep Farmer' Motivation.** The score of farmers' motivation to fulfil basic needs was low, this is due to sheep farms could not able to fulfill family' needs of daily living (Priyanto *et al.* 2004). Farmers in both villages have low motivation to improve their social status. Farmers argue that raising livestock does not increase their status among other citizens. Farmers have a high motivation for extension activities conducted by government and private parties. This is due to the high desire of farmers to further improve the knowledge and skills to raise sheep.

**Table 4.** Motivation of farmers in Cibanteng and Cikarawang Village

Category	Score	
	Cibanteng Village	Cikarawang Village
Basic need	1.51	1.90
Social status	1.96	2.15
Farm development orientation	2.78	2.74
<b>Average</b>	<b>2.08</b>	<b>2.27</b>
1.00-1.66 = low		
1.67-2.33 = moderate		
2.34-3.00 = high		

**Table 5.** Relations between farmers' internal factors and motivation

Internal Factors	Farmer' motivation		
	Basic Needs	Social Status	Farm' Development
<b>Cibanteng Village</b>			
Farmer' experience	0.096	0.266	-0.216
Farmer' age	0.108	0.193	0.046
Farmer' education	0.126	0.172	-0.142
Farmer' main jobs	-0.040	-0.106	0.360
Family member	-0.182	0.223	-0.048
<b>Cikarawang Village</b>			
Farmer' experience	0.155	0.215	-0.071
Farmer' age	0.060	-0.047	0.494 *
Farmer' education	0.152	0.119	-0.318
Farmer' main jobs	0.047	-0.067	-0.115

Table 5 shows that in Cibanteng Village the internal factors of farmers has no relationship with the motivation in developing sheep business, whereas in Cikarawang village, internal factors that have relationship with the motivation of farmers to develop sheep farm was farmer' age.

**Table 6** Relations between farmers' external factors and motivation

External Factors	Farmers' Motivation		
	Basic Needs	Social Status	Enterprise Development
<b>Cibanteng Village</b>			
Marketing aspects	0.112	0.019	0.078
Input availability	0.134	0.271	-0.112
Production incentives	0.674**	-0.030	-0.122
<b>Cikarawang Village</b>			
Marketing aspects	0.305	0.165	0.387
Input availability	0.315	0.115	0.116
Production incentives	0.532**	0.519 **	0.152

\*\* ) highly significant (P < 0.01)

Production stimulant has a significant relationship with basic needs of farmers in Cibanteng Village. If production incentives are improved then basic needs of farmers will be more fulfilled so that the sheep business will be more expanding. In Cikarawang Village, the farmers' external factors that has significant relationship with basic needs and social status was production incentives. The easier the production incentives were obtained, the motivation of farmers in fulfilling basic needs will be higher as well. Production incentives also has a positive relationship with social status. Production stimuli also have a positive relationship with social status. The easier the farmer get the production incentive, his social status increases so that will be appreciated by the society around him.

## CONCLUSIONS

Farmers in Cibanteng and Cikarawang villages have high motivation to increase productivity of their sheep farms. Farmer' age was internal factors that has relations with orientation to develop the farm, while the external factors that have relations were production stimulant with motivation to fulfil the basic needs, and motivation to achieve social status.

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