

## THE SOCIO-ECONOMIC PROFILE OF SMALL HOLDER GOAT FARMING IN KARANGLEWAS SUB-DISTRICT BANYUMAS REGENCY

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### ABSTRACT

The aim of this research was to know of the socio-economic profile of smallholder goat farming in rural areas of Karanglewas Sub District Banyumas Regency, Central Java. The method that used at this research was survey method. Samples were taken by purposive random sampling. Total samples were 150 farmers. The data was analysed by qualitative descriptive analysis. The results of this research showed that income level of smallholder goat farming in Karanglewas Subdistrict, Banyumas Regency was Rp.370.575,28 per year, with the economic efficiency was 2.23 that means the farmers get return Rp.2.23 for every one unit cost addition. The average of number of goats was 2.37 ST and the average of number of feed cost was Rp.151.237,82 per year. The average of farmer's age was 48,5 year's old, farmer's formal education degree commonly were elementary school degree (73.33%) with the average of education level was 5,85 year, and the average of breeding experiences was 4,2 year. In farming goats, most of farmers (96.67%) use traditional farming system. Whereas in the matter of main job, most of farmers (55.33%) are crop farmer.

*Key Words : Goat, Socio-Economic Profile, Smallholder Farming*

### INTRODUCTION

Livestock production plays an important role as income generating activities, particularly for the small holders, while being a source of animal protein to support the national program. Small ruminants are an important but neglected resource in developing countries. Sheep and goats provide their owners with a broad range of products and socio-economic services. They are closely linked with the poorest people (Budisatria, 2006). One of the livestock which gives a contribution to the increasing of farmer's income at once gives the role in economic growth is goats (Devendra, 1993). Goats in Indonesia play a complex function in Indonesia's farming system. Their biological and economic functions have been recognized. Besides producing animal products as a protein source, a goat also provide manure to maintain soil fertility (Suradisastra, 1993), important source of income (Djoharjani, 1996), and a form of insurance against risk (Knipscheer *et al.*, 1987).

Special advantages of small ruminants over large ruminants include higher production efficiency, easier marketability, and lower risks (Soedjana *et al.*, 1988), broader

adaptability to different environments, and smaller absolute feed requirements per animal (Peters, 1988). In fact, in the villages, goat farming usually was done traditionally, so an introduction attempt of animal husbandry technology innovation with the purpose is to increase the small holder goat farmer's income. The small holder goat farming had taken farmer's interest because it can be raised traditionally with a simple technology and its products have attracted the consumers interest.

Chaniago (1993) stated that almost all small ruminants in Indonesia are raised by small holders in villages and are managed in traditional ways. A village, as well as being the home, is also the centre of socio, cultural and economic life of people living in rural areas. The village and the villager's economy is based on crop production, primarily to provide food for the family in subsistence agriculture, but also to provide some surplus for sale for their cash needs. Devendra (1986) stated that small ruminants production system have persisted together with the overall patterns of crop production and farming systems. They are especially dependent on the agro-ecological environment and because of the ruminant digestive system, must always depend on high fibre vegetation or crop residues for their feed base.

Karanglewas Sub-district located in Banyumas Regency is one of small holder goat farming centre. Usually goats are raised by the farmers in a small number with a traditional farming system and simple application of animal husbandry technology. Usually farmers do not orientate to enterprise economic aspects yet, so they have not count the income and economic efficiency level of their farming. The income and economic efficiency of small holder goat farming is affected by some socio economic factors, such as the number of goat owned, feed cost, farmer's age, farmer's education level, breeding experience, also farming system and farmer's main job. So it needs a research to analyze the socio economic profile of small holder goat farming in Karanglewas Sub-district Banyumas Regency in order to increase the farmer's income.

Based on background, the aims of this research are to know the number of income and economic efficiency level of small holder goat farming, and to know the social economic profile of small holder goat farming in Karanglewas Sub-district Banyumas Regency. These data can be important for the local government and extension agent, because different condition of socio-economic profile between goat farmers type also requires different approach. Also the local government and extension agent can encourage small goat farmers to learn from larger goat farmers, so the small farmers can increase their herd scale in order to increase the farmer's income.

## **MATERIALS AND METHODS**

The target of this research is Jawarandu goat farmers who live in Karanglewas Sub-district Banyumas Regency. The socio economic profile of small holder goat farming which analyzed in this research are income and economic efficiency level, the number of goat owned, feed cost, farmer's age, farmer's education level, breeding experience, farming system, and farmer's main job. The research was done using survey method. Samples were taken by purposive sampling. Criteria for the selected village is goat farmer populations those dense, medium, and rare. From thirteen villages located in Karanglewas Sub-district,

three villages were selected as a sample, which are; Karangkemiri, Singasari, and Tamansari. From those three villages; ten percent of total goat farmers of each selected village are taken at random. Total respondents are 150 farmers.

The data of farmer's income level is obtained from subtraction between total revenue and total cost by cash out flow, and economic efficiency level is accounted by using revenue per cost ratio (R/C).

$$\text{Income} = \text{Total Revenue} - \text{Total Cost}$$

$$\text{R/C ratio} = \frac{\text{Total Revenue}}{\text{Total Cost}}$$

Whereas socio economic profile of goat farming is known from the number of goat owned, feed cost, farmer's age, farmer's education level, breeding experience, farming system, and farmer's main job. The data are analyzed using descriptive analysis and cross tabulation. The data were taken primary data, which is obtained from depth interview with a standardized questionnaire, and secondary data, which are obtained from documentation, statistic data, internet, and monographic data.

## RESULTS AND DISCUSSION

Table 1. The Classification of Goat Owned

The Number of Goat Owned (ST)	Frequencies	Percent	Cumulative Percent
Less than 1.10	0	0.00	0.00
1.11 – 1.00	130	86.67	86.67
4.11 – 7.00	15	10.00	96.67
7.11 – 10.00	3	2.00	98.67
More than 10.01	2	1.33	100.00

Nearly 99 percent of small ruminants in Indonesia are found with smallholder farmers (Knipscheer *et al.*, 1984; Soedjana, 1993). The capability to convert into cash at any time also makes livestock more attractive, this in contrast with crop production which can only be used or sold on or after a fixed point in time (Ifar, 1996 *cit* Budisatria, 2006). Since 95 percent of the Indonesians are Moslem, small ruminants play an important role in religious festivities, mainly in *Idul Adha* celebration. This is because each Moslem's family with 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. For the poor farmers, it hard if not impossible to slaughter large ruminants for religious celebrations; therefore the availability of small ruminants during that period is important (Budisatria, 2006).

Goat population in Karanglewas Sub-district Banyumas Regency were 3,296 tail. Commonly, goat farming management is managed in traditional ways and as a side job.

Usually, goat are raised in the slatted floors (*lemprakan*) with a simple construction, elevated to about 0.5 m above the ground. Martawidjaja (1992) stated that this type of housing as the goat's pens can easily be cleaned.

The feeding system was quite similar among the farmers. It consisted mainly from mixture of shrubs and leaves from banana, cassava, jackfruit, and other trees including the leguminous as *Calliandra callothyrsus meissn.* (kaliandra), *Leucaena glauca* (lamtoro), and *Gliricidia maculata* (gliricidia). Djoharjani (1996) stated that the development of goat production depends also on the quantity and quality of available animal feed.

Goat is obtained by buying or by result of goat farming from other farmer (*menggaduh*), and from kid of previous goat farming. Most of kids are sold and used as the breeds, and seldom it used for self consumption. Whereas manure is used as fertilizer, either for farmer self sufficient or sold to other farmers.

### **Revenue and Cost of Production**

Goat farming revenue comprise goats selling, inventory change, and manure selling is accounted in the certain time. Base on the result of the research, total revenue of goat farming in Karanglewas Sub-district Banyumas Regency is Rp.670,850.54 per year per farmer or Rp.55.904.21 per month per farmer. Hernanto (1989) stated that factors affecting the livestock farming income are farming scale, land, capital, managing skill, the value of livestock's products, livestock productivity, input cost, and price of products.

Production cost is all expenditures spent by farmer, to get the production factors and supporting material. Production costs comprises depreciation of goat's pens, depreciation of equipments, buying cost for goat, labour cost (worker outside family member), and goat's feed cost. Based on the result of this research, total cost of small holder goat farming in Karanglewas Sub-district Banyumas Regency is Rp.300,275.26 per year per farmer or Rp.25,022.94 per month per farmer. For small scale of livestock farming, if all production cost are added, the farmer just get very little profit or did not get at all. There are some costs which never been accounted such as labours which are the farmer themselves, capital cost, labour which come from their own family, cost of renting land farming, and feed cost which is not obtained by buying.

### **Income Level**

Income is the subtraction of total revenue by total cost during goat farming period. The analysis was done using cash out flow approach, which means that the interest on capital and the labour coming from own family are not accounted.

Based on the research, the average income level farmers is Rp.370,575.28 per year per farmer or Rp.30.881,27 per month per farmer.

### Economic Efficiency Level

Economic efficiency is the comparison of total revenue with total cost. According to Hernanto (1989), economic efficiency is accounted using revenue per cost ratio (R/C), which is comparing total revenue with total cost used in the process of farming production.

The R/C value of small holder goat farming in Karanglewas Sub-district Banyumas Regency is 2.23. It means that in every one unit of cost spent in goat farming in a year will produce revenue of Rp.2.23. Soekartawi (1988) stated that a farming enterprise is said as an efficient if the revenue per cost ratio (R/C) is higher than one. The higher value of revenue per cost ratio is the more efficient farming.

### The Socio-Economic Profile of Small Holder Goat Farming

Socio economic profile of animal husbandry farming is the factors which affect the smoothness of a farming which will determine the success of that animal husbandry farming. Furthermore, the socio economic profile of small holder goat farming in Karanglewas Sub-district Banyumas Regency can be explained as follows.

Table 2. The Classification of Feed Cost

The Number of Feed Cost (Rp)	Frequencies	Percent	Cumulative Percent
Less than 162,000,00	115	76.67	76.67
162,000,01 – 270,000,00	19	12.66	89.33
270,000,01 – 378,000,00	10	6.67	96.00
378,000,01 – 486,000,00	4	2.67	98.67
More than 486,000,01	2	1.33	100.00

Table 3. The Classification of Farmer's Age

The Farmer's Age (years)	Frequencies	Percent	Cumulative Percent
Less than 15.00	0	0.00	0.00
15.01 – 55.00	112	74.67	74.67
More than 55.01	38	25.33	100.00

### Number of goat owned

The result of the research shows that 86.67 percent of number of goat owned is between 1.10-4.00 ST (Livestock Unit), with the average number of owned is 2.70 ST. This number is higher than what have been reported by Sochech and Warsiti (2000) and Chamdi (2004) that was 2.33 ST and 2.50 ST, respectively. According to Soedjana (1993), the number of goat owned have a positive effect to the increasing of farmer's income. Astuti *et. al.*, (2000) stated that number of livestock owned determine the income level so much, because the higher number of livestock owned will be more efficient because it increases the revenue number and depress total cost of production. So the farmer could increase of their herd scale with to improve the number of goat and capital. The number of goat owned showed in the Table 1.

### Feed cost

In a goat husbandry, feed cost is the highest cost, and one of the factors determining feed cost is amount of the feed given. According to Tillman *et.al.*, (1984), that the cost of livestock's feed is the highest cost in an animal husbandry farming, that is about 60-80 percent of total production cost. The result of the research shows that 76.67 percent using feed cost is about less than Rp.162,000.00. The average number of feed cost as much Rp.151,237.82 per year per farmer or Rp.12,603.15 per month per farmer. The number of feed cost shows in the Table 2.

Astuti *et.al.*, (2000) reported that goat's feed cost also affected the farmer's income. If feed cost is increasing, the production cost also increase, so the farmer's income will be decrease. Musofie and Wardhani (1999) stated that cost efficiency of livestock's feed could increase revenue, so that the farmer's income and economic efficiency of goat farming could also increase.

### **Farmer's age**

Farmer's age is one of the factors affecting income and economic efficiency. Soekartawi (1988) stated that farmer's age as the labour of farming enterprise in some villages can determine the number of income. Based on farmer's age classification, it is known that farmer's age is about 14-55 years (74.67 percent), whereas the non productive age is just 25.33 percent. The research result shows that the average of farmer's age is 48.5 year, which is belong to productive age, and so it will determine the continuity of goat farming activity. The farmer's age shows in the Table 3.

### **Farmer's education level**

Education level is one of the important factors in developing human resources. Education will add skill and knowledge, so it will increase labour productivity and will determine their goat farming performance. The result of the research shows that most of goat farmer's education level (73.33 percent) are elementary school level, whereas the number of the farmers who never attended school are about 8.00 percent. It shows that education level of most goat farmers are low, with the average period of formal education is about 5.85 years. The goat farmer's education level were shown in the Table 4. Low education level caused the innovation in technology adopted by the farmers is not maximum, so that the output produced do not fulfill the standard of production. Simamora *et.al.*, (1984) stated that the major of villages populations are belong to low economic population with low level of education, so their attempt in adopting the innovation of technology is not sufficient.

### **Breeding experience**

The research data shows that 70.67 percent of the breeding experience in farming goat is less than five years. The average number of goat farming experience is about 4.20 years.

Most of the farmers said that to get the goat farming experience from their parents which is delivered from a generation to next generation.

*Table 4. The Classification of Farmer's Education Level*

The Farmer's Education Level	Frequencies	Percent	Cumulative Percent
Never Attended School	12	8.00	8.00
Attended Elementary School	110	73.33	81.33
Attended Junior High School	17	11.34	92.67
Attended Senior High School	11	7.33	100.00
Attended Diploma/University	0	0.00	100.00

*Table 5. The Classification of Breeding Experience*

Breeding Experience (years)	Frequencies	Percent	Cumulative Percent
Less than 5.00	106	70.67	70.67
5.01 – 10.00	24	16.00	86.67
10.01 – 15.00	15	10.00	96.67
15.01 – 20.00	4	2.67	99.34
More than 20.01	1	0.06	100.00

*Table 6. The Classification of Goat Farming System*

Goat Farming System	Frequencies	Percent	Cumulative Percent
Non Traditional System	5	3.33	3.33
Traditional System	145	96.67	100.00

*Table 7. The Classification of Farmer's Main Job*

Farmer's Main Job	Frequencies	Percent	Cumulative Percent
Non Crop Farmer	67	44.67	44.67
Crop Farmer	83	55.33	100.00

The goat farmer's breeding experiences are shown in the Table 4. According to Wahyono and Soepeno (1995) that the experience, knowledge, attitude, farmer's skill in breeding and reproduction aspects, feed giving, farming management, and a good marketing management shows that the farmer have a good capability, so that it can cause the increasing of their income.

### **Farming system**

The research result shows that 96.67 percent the farming system done by the farmer commonly was done traditionally, whereas the non-traditional or semi intensive farming system is just 3.33 percent. Criteria for the selected of traditional or non-traditional farming system are based on aspects of herd scale, feed, goat pen, farming sustainability, technology, and farming management. Devendra and Burns (1983) stated that commonly the goat farming system in villages uses traditional farming system with a small number of goat owned and do not exploit new technology yet. Shodiq and Tawfik (2003) stated that the major systems in goat production found in Indonesia are the cut and carry and grazing systems, so they need to adopt the new technology of animal husbandry. The goat farming system shows in the Table 6.

### **Farmer's main job**

The result of this research shows that most farmers (55.33 percent) have the main job as the crop farmer (*petani penggarap*), whereas the non crop farmer number is 44.67 percent. The reason of this fact is that most of populations in Karanglewas Sub-district Banyumas Regency are crop farmers or farm labourers (*buruh tani*), so that the livestock farming is considered just as a side job.

Soedjana (1993) stated that commonly the village populations focus their intention on their main job that is a crop farmer, so they do not pay many attentions on their livestock farming. It is because most of small holder goat farming is considered just a side job, so their attention on their livestock farming is not sufficient. The farmer's main job are shown in the Table 7.

## CONCLUSION

The income level of small holder goat farmers in Karanglewas Sub-district Banyumas Regency are various with the average income level of Rp. 370,575.28 per year per farmer or Rp.30.881,27 per farmer. The small holder goat farming in this area have already efficient with the average of revenue per cost ratio (R/C) level is 2.23, which means that every Rp.1.00 of production cost will produce Rp.2.23.

The average of farmer's goat owned is 2.70 ST, and the average of feed cost is Rp.151,237.82 per year per farmer or Rp.12,603.15 per month per farmer. The average of farmer's age is 48.5 years, the farmer's education level are commonly attended elementary school with the average period of formal education is about 5.85 years, and the farmer's breeding experience level are about 4.20 years. In farming goats, most of farmers use traditional farming system. Whereas in the matter of main job, most of farmers are crop farmer.

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