

## **ANALYSIS OF THE PROFITABILITY OF DAIRY FARMERS BASED ON THE SCALE OF LIVESTOCK OWNERSHIP IN DISTRICT SEMARANG**

by:

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### **ABSTRACT**

The study aims to determine the productivity of dairy cattle and profitability based on the scale of livestock ownership in the District of Semarang, Central Java. The research method used survey method. Dairy farmers samples taken randomly based membership Village Unit Cooperatives (KUD). Taken 3 KUD are "purposive sampling", ie KUD Getasan, KUD Sumber Karya Pabelan and KUD Karya Mekar Ungaran. Samples taken as many as 30 farmers each KUD, so overall by 90 farmers. Data analysis was performed by descriptive quantitative and qualitative and economic calculation effort. The results showed average milk productivity as much as 7.03 liters/head/day. Profitability of the business is based on a scale of ownership shows that the scale of effort I (1-2 heads) of 53.36%, the scale II (3-4 heads) 55.42% and scale III (> 4 heads) amounted to 58.05%. The average level of profitability of 55.61% greater than the interest rates on bank loans and deserves to be developed.

**Keywords: profitability, scale of livestock ownership, dairy cattle**

### **INTRODUCTION**

The existence of the business of dairy cows are very helpful people's lives, especially in terms of economic resources, family, employment, reduce poverty levels in the countryside, a supplier of industrial raw materials, the provider of animal food of high quality, and help protect the environment with the use of organic fertilizers. Dairy farm is still mostly done by livestock farmers of the people, so that the production and productivity of enterprises is still low. The performance level of milk production of dairy cattle on average currently at 7-10 liters/head/day. The factors that lead to low production according Boediyana (2009) are: 1) not efficient for small-scale ownership, and generally as a sideline business, 2) the level of milk prices at the farm level low is not balanced with the cost of production, 3) farmers have not many realize the importance of maintaining hygiene in the handling of milk, and 4) the lack of access to capital, especially low interest rates.

Conditions dairy cattle business today is limited venture capital, scale livestock ownership is still relatively small, feeding both the quality and quantity is limited, management of dairy cattle business is still less attention to the technical aspects of a true effort so that the level of milk production and quality is still low, productivity not efficiency and maximum effort. Situation dairy cattle business in turn result in low productivity, efficiency and revenue as well as business competitiveness.

At this time the government has done revitalization milk program with the aim of increasing production and productivity of dairy cattle. Other programs related to dairy development is the issuance of Presidential Decree No. 28 Year 2008 on the National Industrial Policy which among others emphasize the increased productivity of livestock, population and ownership of livestock, milk quality, improved feed, human resources, cooperation and partnership with IPS, capital and increase milk consumption. But

until now there are still many obstacles on the productivity of the business, so it needs strategic effort for developing and strengthening efforts to increase the productivity of dairy cows. Agribusiness development program directed at the dairy farm business people need to pay attention to improved productivity and profitability. This is in line with the opinion of Soekartawi (1994) that the productivity of the agricultural / livestock affected by technical factors, social and economic. Productivity in the broad sense regarding the relationship between the output (output) to the input (input) which is used to produce value added (value added) with unused resources / resources used (Suprihanto, 1997). Productivity is not just the size of the production or output produced, but the size of the level of use of resources to achieve a mission or achievements to be expected. Furthermore it is said by Rusdiana and Sejati (2009) that the business profits increase if the farmer has a good management, inadequate business scale, provide adequate food and quality. Farmers must optimize production cost to gain more leverage in the cattle business, Based on the above issues, this study was conducted in order to determine the productivity of dairy cows folk and profitability based on the scale of livestock ownership in the District of Semarang, Central Java.

## **METHOD**

Research conducted at the Semarang District, with the consideration that the Semarang District is a center of dairy development in Central Java. The study was conducted from October 2011 to March 2012. The research method used survey method, which is taking a sample from a population with a questionnaire as a data collector (Singarimbun and Effendi, 1996). Dairy farmers samples taken randomly based membership Village Unit Cooperatives (KUD). Taken 3 KUD are purposive sampling, they were KUD Getasan, KUD Sumber Karya Pabelan and KUD Karya Mekar Ungaran. Samples taken as many as 30 farmers each KUD, so overall by 90 farmers. The data consist

of primary data, collected through interviews with dairy farmers include the respondent's identity, business conditions, the number of livestock ownership, milk production, and cost aspects, as well as a business reception. Data analysis was performed by descriptive quantitative and qualitative and economic calculation effort. The income level of farmers is calculated by the formula (Rahim and Dwi Hastuti, 2007):

Farmer income (Pd) = Total revenue (TR) - Total costs (TC) ..... (1),

the next level of profitability calculated as per the instructions Riyanto (1995), namely:

$$\text{Profitability} = \frac{\text{income}}{\text{production cost}} \times 100\% \dots (2)$$

Phi > interest → profitable

## **RESULT AND DISCUSSION**

Semarang district is the center of dairy development in Central Java. By geographic area of 95,020,674 hectares Semarang regency. Semarang regency altitude between 318 m - 1,450 m and an average of 607 m above sea level. The area with the lowest height is located in the district of 318 m and the highest Ungaran located in District Getasan 1,450 m, with temperatures ranging between 23 - 26°C, with humidity ranging from 80-81%. The average rainfall is 1,979 mm and the number of rainy days is 104. Based on the geographical picture, especially the air temperature is very suitable for the development of dairy cattle (Sudono et al., 2003).

Based on the ownership of livestock (lactating and non-lactating cows) and the production of dairy farmers in Semarang District KUD members can be seen in Table 1. The average rate of 2.3 livestock ownership lactation tail with average milk production of 7.03 liters / ekor.hari. According to Suzuki et al. (2006) that there are differences in milk productivity and business management relation to the environment and location of the region. Dairy cattle business with the sustainability of production is expected to have a ratio > 60% (Sudono et al., 2003).

Table 1. Owners level and Milk Production in Dairy Cattle Farmers in District Semarang

No	Explanation	Owners level and Milk Production		
		Farmer KUD Getasan (n=30)	Farmer KUD Sumber Karya (n=30)	Farmer KUD Mekar (n=30)
1	The number of cattle lactation (head)	84	66	58
2	Total non-lactating cattle (head)	112	52	43
3	The ratio of non-lactating cows and lactation Milk production (liters / head / day)	1 : 1,33	1 : 0,78	1 : 0,74
4		7,48	7,59	6,03

**Identity Respondents Dairy Cattle Farmers**

The identity of the respondents were analyzed based on the parameters of age, education, livelihood and experience breeder. The results of the study are presented in Table 2.

Table 2. Respondents identity of Dairy Cattle Farmers in District Semarang

No	Identity Respondents	Amount (person)	Percentage --- (%) ---
1	Age		
	a. 25 -59 years	83	92,22
	b. > 59 years	7	7,77
2	level of education		
	a. primary school	26	60,00
	b. junior high school	10	28,89
	c. high school	54	11,11
	d. postgraduate	0	0,00
3	livelihood		
	a. farmer	44	48,89
	b. breeder	18	20,00
	c. labor	18	20,00
	d. entrepreneur	6	6,67
	e. government employee	2	2,22

4	f. other raising experience	2	2,22
	a. 1-6 years	30	33,33
	b. 7-11 years	28	31,11
	c. 12-16 years	21	23,33
	d. >16 years	11	12,22

Characteristics of respondents indicate that dairy farmers are still prolific breeder age, with a range of 27-59 years as many as 92.22% and more than 59 years of 7.77%. Level primary School 54 (60.00%), a junior high school 26 people (28.89%), high school 10 people (11.11%). The overall level of education is still relatively low, and it can affect the level of innovation dairy cattle business. Job respondents include: farmer-breeders 62 (68.89%), labor 18 people (20%), entrepreneur 6 (6.67%), government employees 2 (2.22%) and others, 2 (2.22%), dairy cattle breeding experience of respondents ranged 1-6 years as many as 30 people (33.33%), 7-11 years as many as 28 people (31.11%), 12-16 years as many as 21 people (23.33%), more than 16 years of 11 (12.22%). Business experience relatively long, but the dairy cattle business is run traditionally.

**Analysis of Costs, Revenues and Operating Revenues Dairy Cattle**

Analysis of operating expenses dairy cattle Farmers respondents can be seen in Table 3.

Table 3. Average Cost of Production Cattle in District Semarang

N o	types of cost	production cost		
		Scale I	Scale II	Scale III
-----IDR/month-----				
1	Conse ntrate feed	498.223,88 (45,72%)	804.375,0 (56,39%)	984.000,0 (58,32%)
2	Grass feed	482.462,68 (44,27%)	505.078,1 (35,41%)	600.321,4 (35,58%)
3	AI	59.701,49 (5,47%)	62.812,5 (4,40%)	47.142,86 (2,79%)
4	medici nes and vitamin s	4.335,82 (0,39%)	4.812,5 (0,33%)	4285,71 (0,25%)
5	memb ership	6.417,91 (0,58%)	5.312 (0,37%)	5.312,5 (0,31%)

dues			
6 Depreciation	38.502,06 (3,53%)	43.898,43 (3,07%)	46.071,42 (2,73%)
Cages and Equipment			
Total cost	1.089.643,84	1.426.288,53	1.687.133,89

Description: Scale I (1-2 head), Scale II (3-4 head) and Scale III (> 4 head)

Based on production costs show that the scale of I to IDR1,089,643.84, the scale of IDR 1.426.288,53 II and III scale for IDR 1.687.133,89 / month. The cost is the cost of feed concentrates, scale I Rp. 498,223.88 (45.72%). Scale II IDR 804 375, - (56.39%) and scale III IDR 984 000 / month (58.32%). Furthermore accordance Budiarsana and Juarini opinion (2008) that the cost of feed in total production costs are the largest expense of a dairy farm.

### Analysis of Revenues and Operating Revenues Dairy Cow

Acceptance of dairy cattle business show that the scale of I average of IDR 1.671.119,82, Scale II IDR 2216743.5, scale III IDR 2,666,678.04 / month. The reception is from the sale of milk, average a 67.75% contribution of total revenue effort. Results revenue dairy cattle business can be seen in Table 4.

Table 4. Revenue Level Enterprises Dairy Cattle Farmers in District Semarang

No	Type of revenue	Effort scale		
		scale I	scale II	scale III
			---	
			IDR/mont-	
			---	
1	Sales of milk	1.082.687 (64,78%)	1.722.469 (77,70%)	1.620.249 (60,75%)
2	Sales of calf	586.442,78 (35,09%)	484.375 (21,85%)	1.023.810 (38,39%)
3	Sales of fertilizer	1.990,04 (0,11%)	9.899,83 (0,44%)	22.619,04 (0,54%)
	Total	1.671.119,8	2.216.743,5	2.666.678,0

	2	4
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Based on the income level of farmers, I scale the average of IDR 581,475.98, scale II IDR 790,454,97 and scale III IDR 979,544.15 / month. Dairy farmers good income scale I, II and III positive, which means that the costs can still be covered with a business reception. Opinions Dwi Hastuti Rahim (2007) states that income is the excess of the value of the costs incurred by the revenues generated from a form of production activities. The size of the farmer's income earned depends on the amount of revenue received, as well as production costs.

Table 5. Income level of Dairy Cattle Farmers Members KUD

No	Explanation	Amount		
		scale I	scale II	scale III
			---	
			IDR/mont	
			h-	
1	Revenue	1.671.119,82	2.216.743,5	2.666.678,04
2	Production cost	1.089.643,84	1.426.288,53	1.687.133,89
	Income	581.475,98	790.454,97	979.544,15

### Dairy Cattle Business Profitability

Profitability of dairy cattle Farmers, for each scale is 53.36% (scale I), 55.42% (scale II) and 58.05% (Scale III), or an average of 55.61%, which means dairy cattle business is profitable enough (greater than bank lending rates, 15%). Emawati research results (2011) level of profitability of dairy cattle at Sleman Regency measurement IRR of 41.79%. Profitability calculation result are shown in Table 6.

Table 6. Dairy Cattle Business Profitability in District Semarang

No	Explanation	Level of profitability		
		scale I	scale II	scale III
---IDR/month---				
1	income	581.475,98	790,454,97	979.544,15
2	Production cost	1.089.643,84	1.426.288,53	1.687.133,89
	Profitability (1/2x100%)	53,36%	55,42%	58,05%

## CONCLUSION

The productivity of dairy cattle business people in Semarang district average is still below the target lower national revitalization milk. Profitability of the business quite profitable, already above lending rates of commercial banks and people's dairy business to develop.

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