Profile of Milk Industry in The Province of Central Java (Study of Milk Cooperatives Profitability)

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ABSTRACT

This research was conducted to study of profitability performances of milk cooperatives in area which are as centre of milk production in the Province of Central Java. The cooperatives generally have some kind of business to support their main function in supplying fresh milk to milk processor industries, such as feed industry, farm industry and as milk collector. This research was done in 2008 at eleven milk cooperatives in north and east of Mount Merbabu area (Milk cooperatives: Gotong Royong, Mekar, Rukun, Pabelan, Getasan, Andhini Luhur in District of Semarang and Mojosongo, Musuk, Cepogo, Ampel-Ganesha and Kota at the District of Boyolali). The method used in this research was survey with interviews to cooperative's chairman and collected the annually reports of cooperative's RAT (annual cooperative membermeeting from 2004-2006 (reported in 2007). The variable observed were its financial ratio on profitability, and financial efficiency. The financial ratio's on profitability consist of net cooperatives income from operations, Return on Assets (ROA), Return on Equity (ROE), operating profit margin ratio, while for financial efficiency is the measure of Assets Turn-Over (ATO). The research results have indicated that average net cooperatives income from operations between IDR 20-75 millions annually in the District of Semarang and between IDR 25-172.7 millions rupiahs in the District of Boyolali. Its value on ROA and ROE were varied and fluctuated around 1.07-1.44 % and 2.46- 3.58 %, in the District of Semarang respectively, and ranged between 0.15-3.8 % and 1.06-4, 44 % in the District of Boyolali. It's value on operating profit margins have reduced sharply from average 17 to 8.64 % between 2004-2006, while it's assets turn over were around 18.93 to 23.91 %, in the District of Semarang,and fluctuated around 10.7-16.8% and 12.2-15.4 % for profit margin and assets turn over in the District of Boyolali. The low performance of milk cooperatives, therefore by regarding it's profitability and it's value on assets turn over indicated that the managerial skill of cooperatives top management were still too weak lead to uncertainly milk supply sustainability to milk processors. The milk industries in Central Java were worst.

Key words: *central of Java, milk cooperatives, profitability, financial efficiency*

INTRODUCTION

Milk farming was first introduced in Indonesia on the island of Java during the Dutch colonial era, when small herds of Holstein-Friesian cattle were kept close to the cities of Jakarta and Surabaya and in the highlands where the climate suited this temperate breed. After independence, the herds were broken up and smallholder dairies emerged. Each farmer owned one or two cows and raw milk was sold in urban areas through a system of private collectors who acted as middlemen; the farmers were paid about 25 percent of the retail price. A serious attempt to develop the milk industry along modern lines was made by the government, commencing with the first Five-Year Development Plan (1969-1974). Department of Cooperatives, which had a strong influence on rural development including milking, was formed at this time.

During the next Five-Year Development Plan (1974-1979), attention given to milk development was intensified. Milk consumption was increasing yet local production was still below 20 percent of the national requirements. In 1979 the National Union of Milk Cooperatives of Indonesia (GKSI) was established. This was to be a significant event as it brought under one umbrella all the existing milk cooperatives in the rural areas. The union provided assistance to small farmers by way of imported cattle (with help from the Department of Livestock Services), credit for the purchase of cattle and equipment

for milk collection and milk chilling, as well as vehicles for transport.

During the subsequent Five-Year Development Plan (1979-1984), higher priority was given to milk development with the objective of improving the living standards of smallholder farmer families through creating new rural job opportunities as well as reducing import subsidies. Marked development in the milk sector attributable to substantial government inputs and strong leadership occurred during this period. As a result of the increased volume of milk produced locally, the government had to strengthen facilities for milk handling and chilling, efficient milk collection, road transport and marketing. Foreign assistance and expertise were obtained by the government to assist in these activities.

The primary-level milk cooperatives, the National Union of Milk Cooperatives and the private-sector milk-processing industries participated jointly in the measures taken to absorb the steadily increasing quantities of milk. The milk-processing plants were directed to accept these increasing amounts on a quota system to be reviewed every six months. The quota established was the ratio of the quantity of locally produced milk to be purchased against milk powder imported by the processing factories in liquid equivalent. The real renaissance of the milk cooperatives resulted from Presidential Decree No. 2 of 1978, which enhanced the role of the multipurpose village unit of cooperative society or Koperasi Unit Desa (KUD), giving members greater participation in rural economic development. This enhanced self-reliance and increased participation of the rural population led the way to fuller development of all cooperatives including those in which milking was the dominant activity. Indeed, the President of Indonesia remarked at that time: "The primary task of development is to uplift the common people from the abyss of poverty and the principal solution for raising the weak from poverty and destitution is through cooperatives." (Tambunan, 2008).

Milk farming in Indonesia still remains a small farmers' operation with an average of 3-6 cows per farmer, who traditionally has also kept cattle for manure. More than 85 percent of the milk farmers are members of milk cooperatives that handle the collection, chilling and distribution of milk to milk-processing plants. It is therefore, talking about milk industry in Indonesia should consider the performance of milk cooperatives: their roles and tasks'. Farmers' livelihoods depend largely on the strength of milk cooperatives. The milk cooperatives strength, it self depend, on skill of managers who carry out milk cooperatives.

In general the function of milk cooperatives are as : marketing which transport of milk to market, purchasing which purchase and sell of milk, bargaining which give services (credit, insurance, payment of telephone and electricity) as well as negotiation and product processor (Wissman, 2005; Williamson, 1998).. During recent years, the agribusiness sector has more and more been confronted with the challenges of internationalizing food markets. This development has also seized milk cooperatives which are forced to become more competitive (Ebneth and Theuvsen, 2002). Milk Cooperative managers seemingly have main objectives in their quest for maintaining a viable milk farm business included profitability, and financial efficiency.

Profitability, meaning the ability of the milk cooperatives to cover all costs over time and accumulate wealth in order to survive over time (Trannel, 2002). Profitability of milk cooperatives which have a function as bargaining cooperative or milk manufac-turing provide information about the success and failure of business activities (Henehan, 2002). While, financial efficiency measures the intensity a business uses it assets to generate gross revenues and the effectiveness of production, pricing, financing, and marketing (Ling, 2006).

MATERIALS AND METHODS

Data Collection

Primary and secondary data were collected by survey from Milk Cooperatives in District of Semarang and Salatiga as well as in Boyolali.

The primary data were collected from person interview from manager which carries out milk cooperatives, while the secondary data were from the annual report of cooperatives (RAT, annual cooperative member meeting) 2004-2006, collected at the early of 2008.

Data Analisis

Data obtained were analyzed descriptively of its value on Return on Equity, Return on Investment, Operating Profit Margins and Assets Turn Over. As compared to those of the ideal value as Tranel (2002).

a. Profitability

1. Net Cooperatives Income From Operations (NCIFO)

   = Total Revenue – Total Cost

2. ROA = $\frac{\text{NCIFO}}{\text{Total Asset}}$

   Target: more than Bank interests

3. ROE = $\frac{\text{NCIFO}}{\text{Total Modal}}$

   Target: more than Bank interests

4. Operating Profit Margin Ratio

   = $\frac{\text{NCIFO}}{\text{Gross revenue}}$ Target: more than 25%

b. Financial Efficiency

Asset Turnover Ratio = $\frac{\text{Gross revenue}}{\text{total asset}}$

Target more than 35%

RESULTS AND DISCUSSION

Milk Production Area

At the District of Semarang and Salatiga as well as in the District of Boyolali, milk farmers are associated with village milk cooperatives at sub District level. The village units of cooperatives implicated at this study were KUD Mekar Ungaran, KUD Rukun Salatiga, KUD Gotong Royong Tengaran, KUD Getasan, KUD Sumber Karya Pabelan, KSU Andini Luhur Tengaran. While at the District of Boyolali were KUD Mojosongo, KUD Kota, KUD Ampel, KUD Cepogo and KUD Musuk. These village unit of cooperatives have a function in bargaining and milk marketing, generally to milk factories, i.e.: Friesian Flag as well as Indolakto in Jakarta, Citra National in Salatiga and Sari Husada in Yogyakarta.

Table 1. The number of milk cooperatives in Indonesia and thei role in milk Industry

Year	No of coop*	Dairy cows (head)		Milk Production (ton)	
		National	Kept by coop	National	Kept by coop
1977	2	91,000	1,184	60	1.6
1982	80	140,000	84,891	117.6	72
1987	190	233,000	169,795	234.9	194.6
1992	201	312,226	289,384	367.2	332.9
1997	212	353,119	338,354	446.4	421.4

Table 2. Net Cooperatives Income from Operations of Milk Cooperatives at Central Java

No	Milk Cooperatives	NCIFO (Rupiah)		
		2004	2005	2006
1	KUD Gotong Royong	9,091,527.50	18,668,600.87	20,081,415.00
2	KUD Mekar	82,421,925.14	44,837,717.84	52,217,440.68
3	KUD Rukun	52,472,531.67	60,610,444.15	75,498,136.84
4	KUD Pabelan	28,661,547.56	36,043,671.17	37,491,818.96
5	KUD Getasan	54,955,714.55	55,254,134.08	35,066,723.41
6	KSU Andini Luhur	32,904,731.95	21,710,600.00	55,634,950.00
Avg District of Semarang-Salatiga		**43,417,996.40**	**39,520,861,35**	**45,998,414.15**
7	KUD Mojosongo	161,589,153	164,118,210	172,402,914
8	KUD Musuk	143,035,592	130,882,545	120,397,234
9	KUD Ganesha-Ampel	54,408,202	45,463,704	6,375,390
10	KUD Cepogo	71,085,543	45,367,065	25,244,830
11	KUD Kota Boyolali	137,903,629	132,139,142	127,573,766
Avg District of Boyolali		**113,604,423.8**	**103,594,133.2**	**90,398,826.8**

Figure. 1. The number of milk cooperatives in Indonesia and their role in milk Industry

Net Cooperatives Income from Operations (NCIFO)

This is the measures of cooperatives revenues from any operations- cost of production known as SHU (Sisa hasil usaha), as in Table 2. In general, the values of NCIFO at the District of Boyolali were greater than those in Semarang-Salatiga District. Trend of NCIFO value at the District of Semarang-Salatiga during 2004-2006 were increase, except for KUD Getasan. Values NCIFO of of KUD Mekar and Andhini Luhur were fluctuated indicating the change of managerial style or profit opportunities. While in Boyolali District these values were decrease except for Mojosongo. In general, the value of Net Cooperatives Income from Operation of Milk Cooperatives was less and less in Boyolali District, while there relatively stable in Semarang District.

Return on Assets

Return on Assets (ROA) eliminates the influence of different capital structure . Thus, it is more comparable to judge cooperative enterprise effeciency. All of village unit cooperatives (milk cooperatives) in Central Java have presented their values on ROA lower than 5 %.

The value of ROA were still lower than the interest of conventional bank at the moment or the value of profits sharing of Islamic or Syariah Banks, 5 %. Even in general , trend of ROA were decrease. In USA, the value of ROA of milk industry was between 10-14 % (Bolland *et al.*, 2000).

Table 3. Return on Assets of Milk Cooperatives at Central Java

No	Milk Cooperatives	ROA (%)		
		2004	2005	2006
1	KUD Gotong Royong	0.24	0.49	2.15
2	KUD Mekar	2.71	1.44	1.45
3	KUD Rukun	1.71	2.01	2.54
4	KUD Pabelan	0.64	0.75	0.75
5	KUD Getasan	0.73	0.73	0.44
6	KSU Andini Luhur	2.60	1.02	2.04
Avg. District of Semarang-Salatiga		**1.44**	**1.07**	**1.23**
7	KUD Mojosongo	2.32	2.29	2.23
8	KUD Musuk	1.58	1.51	1.35
9	KUD Ganesha Ampel	1.37	1.1	0.15
10	KUD Cepogo	0.57	0.36	0.2
11	KUD Kota Boyolali	3.38	2.84	2.84
Avg District of Boyolali		**1.84**	**1.62**	**1.35**

***Return on Equity* (ROE)**

Return on Equity (ROE) reflects a company potential to realize profit and income . Such as their value on ROA, the values of ROE of milk cooperatives in Central Java were also less than 5 % of interest or profit , far below the value of ROE of milk industries in USA (Bolland *et al.*, 2000), and lower and lower during consecutive years.

Operating Profit Margins (OPM)

The value of operating profit margins of most milk cooperatives in Central java were far below 25 % of ideal value. Milk cooperatives KSU Andhini Luhur have presented the the ideal value. Even though, it is considered as pseudo-

cooperatives since, it was not clear the kind of cooperatives members which provide milk.

The OPM measure profit per unit of output. Since milk cooperatives in Central Java are in the form of village unit cooperatives which their main businesses are not only milk and milk products, it was therefore not clear whether the most profits among the village unit cooperatives come from milk business.

Table 4. Return on Equity (ROE) of Milk Cooperatives in Java Central

No	Milk Cooperatives	ROE (%)		
		2004	2005	2006
1	KUD Gotong Royong	0.26	0.54	3.15
2	KUD Mekar	8.04	4.43	4.69
3	KUD Rukun	2.69	3.31	4.06
4	KUD Pabelan	1.26	1.54	1.58
5	KUD Getasan	3.88	3.83	2.40
6	KSU Andini Luhur	2.22	1.09	5.60
Avg. District of Semarang-Salatiga		**3.06**	**2.46**	**3.58**
7	KUD Mojosongo	3.47	3.41	3.55
8	KUD Musuk	2.69	2.44	2.22
9	KUD Ganesha Ampel	4.32	3.54	3.42
10	KUD Cepogo	1.67	1.06	0.59
11	KUD Kota Boyolali	4.44	3.42	3.36
Avg District of Boyolali		**3.32**	**2.77**	**2.67**

Table 5.Value of OPM of Milk Cooperatives at Central Java

No.	Koperasi	Operating Profit Margin Ratio (%)		
		2004	2005	2006
1	KUD Gotong Royong	5.67	11.19	9.22
2	KUD Mekar	9.19	4.45	5.22
3	KUD Rukun	4.08	5.96	6.10
4	KUD Pabelan	3.90	4.07	3.21
5	KUD Getasan	3.90	3.38	2.37
6	KSU Andini Luhur	76.99	33.99	25.69
Avg District of Semarang-Salatiga		**17.29**	**10.52**	**8.64**
7	KUD Mojosongo	0.07	0.06	0.06
8	KUD Musuk	0.08	0.07	0.08
9	KUD Ganesha Ampel	0.11	0.08	0.01
10	KUD Cepogo	2.47	0.36	0.18
11	KUD Kota Boyolali	0.25	0.26	0.23
Avg District of Boyolali		**0.60**	**0.17**	**0.11**

Target: more than 25%

Asset Turnover Ratio

Assets turnover ratio reflects financial efficiency of milk cooperatives as presented in Table 6. There were only villages –unit cooperatives of KUD Rukun and Mojosongo which have received the ideal ratio, 35 % (Tranel, 2002). The value of financial efficiency will measure the intensity a business uses it assets to generate gross revenues and the effectiveness of production, pricing, financing and marketing (Ling, 2006). It also indicates that milk cooperatives managers do their business in best way or not.

Table 6. Value of Assets Turn Over (ATO) of Milk Cooperatives in Central Java

No	Milk Cooperatives	Asset Turnover Ratio(%)		
		2004	2005	2006
1	KUD Gotong Royong	4.26	4.40	23.35
2	KUD Mekar	29.55	32.31	28.55
3	KUD Rukun	41.92	33.68	41.62
4	KUD Pabelan	16.48	18.49	23.37
5	KUD Getasan	18.67	21.71	18.62
6	KSU Andini Luhur	2.68	3.08	7.94
Avg District of Semarang-Salatiga		**18.93**	**18.95**	**23.91**
7	KUD Mojosongo	33	33	35
8	KUD Musuk	1.6	19	16
9	KUD Ganesha Ampel	12	12	12
10	KUD Cepogo	0.23	1	1
11	KUD Kota Boyolali	14	11	11
Avg District of Boyolali		**12.17**	**15.2**	**15**

Increasing profits per unit of output need to reduce cost of milk production at the farm level by modify fixed cost or variable cost and reduce handling cost of milk at the milk cooperatives level, with the handling cost of milk around IDR. 560- 700 for the milk price IDR. 2.800 per liter or 25 %, it was considered as so expensive by farmer-members, lead to incapability of farmers to improve the management of milk cattle and milk quality. While for increasing the volume of output are limited by the low productivity of milk cows. Majority of milk cows kept by farmers are Friesians Holstein breed imported from temperate region. High temperature and humidity in

Indonesia are making heat stress for milk cows, lead to sharp reduction of milk production at least 30 %. Gradual acclimatization or placing the cows in the hill with sufficient water supply will keep the productivity of this breed more than 20 liter per days. It is a case of the District of Semarang but not District of Boyolali which suffers from the lack of water, especially during dry seasons.

CONCLUSIONS

Improving farmer's skill and knowledge to formulate feed for their milk cows are regarded as the best way in order to reduce cost of production and increase the milk production without add the number of cows in limited land surface and will maximize the profits. Addition the number of heads wills risqué to reduce fodder base support.

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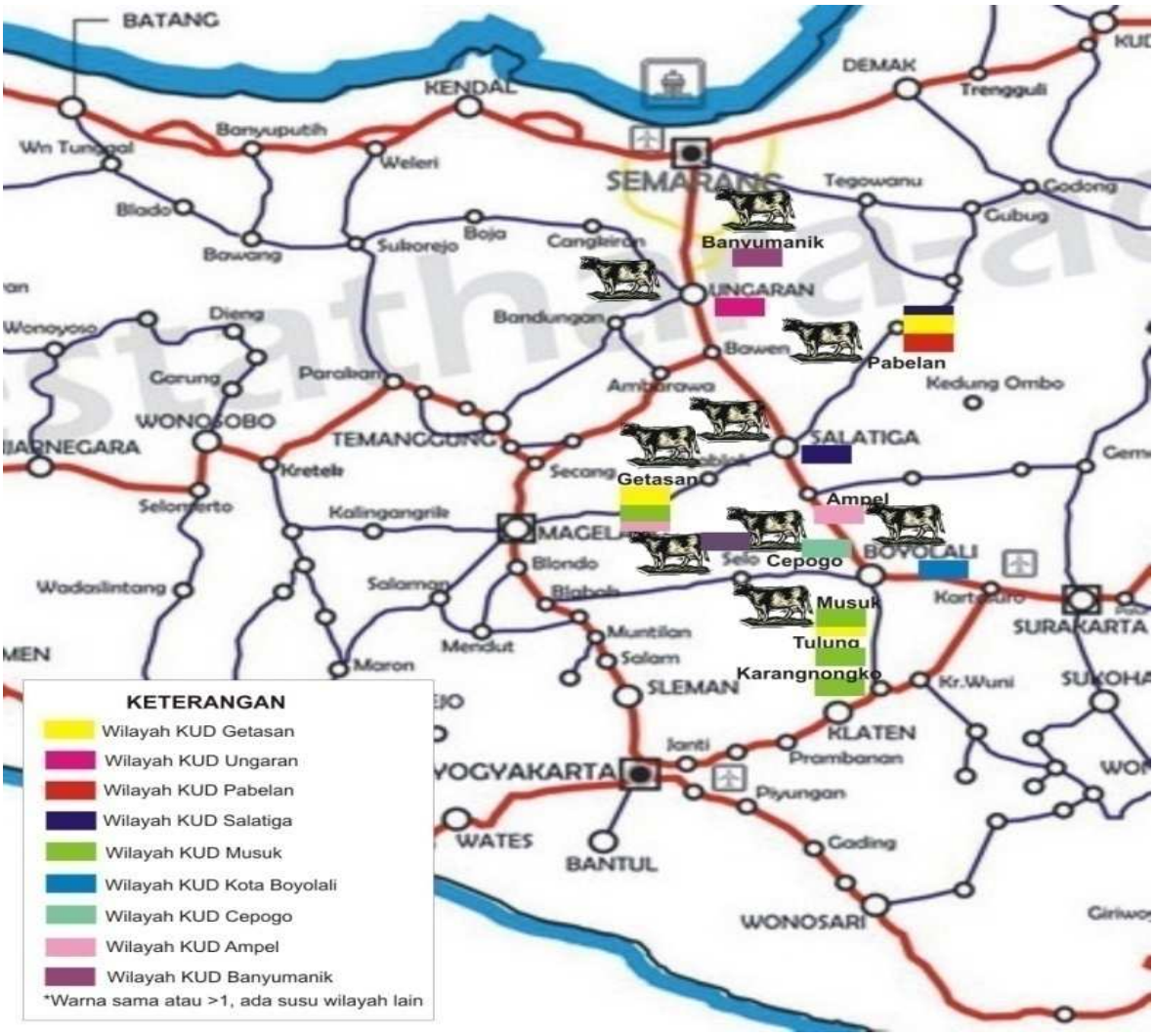

Figure 2. Map of Milk Area Production in The Province of Central Java

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