

# **THE INSIGHT INTO FINANCIAL PERFORMANCE OF COMMERCIAL AND SMALL SCALE DAIRY FARMING AT THAILAND**

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## **ABSTRACT**

Research was carried out at Tambon sub district Lauyau district, Banhong-Lamphun province-Thailand 5113. The case study was aimed to determine the financial performance among commercial and small scale dairy farming. Respondents who selected by purposive sampling method namely, the “Chiang Mai Fresh Milk Farm” (the “CFM” farm) that owning about 1467 heads and applying modern technology as representative of commercial dairy farming and one of the best small scale dairy farming that rearing 52 heads and implementing semi-modern technology as representative of small scale dairy farming. Data were collected from 8<sup>th</sup> July to 8th August 2014. Primary data involving capital, production costs, revenue were gathered by survey method using a structured questionnaire. Whereas, secondary data were obtained from the “CFM” farm and related sources. Descriptive method with the economic formula including production costs, revenue, and profit were employed to analyse the data. Study found that the “CFM” Farm observed as profitable the “CFM” Farm than those of small scale dairy farming which supported by the following financial performance indicators. During one month, dairy farming per animal unit required more capital of 19,626.84 baht and less production costs of 5086.05baht than those 12,303.63 baht and 5286.09 baht, respectively of small scale dairy farming. therefore, more revenue (8503.42 baht) and profit (2989.19 baht) was gained by commercial farm in comparison with small scale dairy farming which yielded 8205.26 baht of milk selling and 2919.18 baht of earning.

Keywords: profit, revenue, production costs, capital, earning

## **INTRODUCTION**

Dairy farming is one of few options that available to rural residents. The development of dairy farming in Indonesia has shown a positive impact on rural development. This farm can provide steady cash income and employment for rural labour throughout the year, and assist in stabilising household income. In addition, dairy farming unit accounts for one of the sources of income at Thailand. Among farm enterprises unit, dairy farming dominate in the third position for farm income with providing employment and income on regular basis. Furthermore, dairy milk output generated from dairy farming unit is guaranteed by the certain market. Therefore, dairy farming unit is one of few options available to Thailand as promising business unit. The participation of dairy farming scientist in dairying becomes important particularly in improving the capability in managing this farming. The good management will lead to efficient in allocating production input that save the expenses for operating dairy farming. Higher dairy milk production will exist since the right management was employed in running this farming, and therefore, increasing revenue and even generating farm's income. Appraising profit may require in evaluating the financial performance of dairy farming in order to decide the feasibility in running the enterprise. The commercial farm has a modern technology with better management in operating dairy farming, while semi-modern technology with the average management appear in small scale dairy farming. It is therefore, interested, to explore the financial performance of commercial farm and small scale dairy farming especially on production cost, revenue, and profit.

## **LITERATURE REVIEW**

Capital can be classified into two types, fixed capital and working capital (current capital) (Riyanto, 2001; Munawir, 2002). The dairy asset was mostly required for procurement in fixed asset than variable asset, and it noted about 95.20% vs. 4.79% (stratum 1, owning 2-4.83 AU), 95.50% vs. 4.51% (stratum 2, having 4.84-7.67 AU), and 93.01% vs. 6.99% (stratum 3, controlling 7.68 AU) of smallholder dairy farming (Vaida, 2013). The value of fixed asset intended to rise as the increasing to dairy cattle (Rakhmad, 2011). Likewise, Yuliarni, 2005 observed that fixed capital in small scale dairy farming slightly increase from 96.50% in stratum 1(having < 4.17 AU) to and gaining 97.05 in stratum 3 (raising 7.36-10.53 AU).

Production costs represent costs incurred in entire production process from raw materials into finished products (Sukirno, 2009). Utami, et al. (2014) found that production cost for stratum 1 was higher (Rp. 27, 614,-/AU/day) than those of stratum 2 (Rp. 26, 889,-/AU/day) and stratum 3 (Rp. 26, 271,-/AU/day). Feed cost reported as a dominant expense in small scale dairy farming in Indonesia and it can reach to 76.51% - 78.27% (Rakhmad, 2011) and it was even higher ranged 84.90% -88.46% (Vaida, 2013)

Fixed costs per animal unit were about 7.14% and it appeared less in comparison with 92.9% of variable costs (Vaida, 2013). Rashid, et al. (2007) claimed that mostly (78.83%) expenses dairy cattle in Jessore District were allocated for feed costs which composed by 15.79% of roughage and 63.04% of concentrate feed. Likewise, study dairy farming in Indonesia discovered the expense in artificial insemination was 0.41%, whereas 84.9% of production costs were allocated for dairy feed cost (Vaida, 2013). Furthermore, Maharani, 2014 recorded that dairy production cost allocated more in concentrate feed (60.10%), while only less cost requirement (25.5%) in forage.

Study of Rashid, et al, 2007 reported that revenue of dairy farming in this area was dominated by milk (87, 87%), whereas only a few number (12, 13%) come from cow dung. Small scale dairy farming in Indonesia also provided about 84.20% from milk selling, 5.93% from yielding calves, and 8.89 of culling cows (Vaida 2013). Utami, et al., 2014 discovered that daily revenue per animal unit dairy cow in Indonesia was larger (Rp. 45, 862,-/AU/day) than those of stratum 2 (Rp. 44, 440,-/AU/day) and stratum 3 (Rp. 43, 292,-/AU/day).

Profit has an important role in as standard appraisal of company performance (Harahap, 2002). Bandara, et al., 2011 stated that profit from dairying for intensive system showed as high as Rs. 68.54/AU/day in comparison with Rs. 55, 31 /AU/ days for semi-intensive systems when labour cost excluded. Utami and Seruni, 2014 found that dairy farmer who held less than four animal unit performed a profitable farming which can obtain approximately US\$ 1.52/AU/day. Profit per animal unit during a month for small scale dairy farming who held 4.93-7.83 AU can obtain IDR 676,755 (Rakhmad, 2011), and this earning was going up to IDR 37,919 particularly for farmers who controlling 7.68 AU (Vaida, 2013).

## METHODOLOGY

The case study was carried out at Tambon sub district Lauyau district, Banhong-Lamphun province-Thailand 5113. Purposive sampling method was applied to select the “Chiang Mai Fresh Milk Farm” (the “CFM” farm) that owning about 1467 heads and applying modern technology as representative of commercial dairy farming and one of the best small scale dairy farming that rearing 52 heads and implementing semi-modern technology as representative of small scale dairy farming. Data were collected from 8<sup>th</sup> July to 8th August 2014. Primary data involving capital, production costs, revenue were gathered by survey method using a structured questionnaire. Whereas, secondary data were obtained from the “CFM” farm and related sources. Descriptive method with the economic formula including production costs, revenue, and profit were employed to analyse the data

## RESULTS AND DISCUSSIONS

Profit and loss statement was held to examine the financial performance of the dairy farm, this industry get loss or profit at the time of them running this business. The profit and loss statement was composed with production cost, revenue, and profit. Overall, the Profit and Loss Statement depicted the highest revenue coming from selling milk across the typical dairy farming. Majority revenue of the commercial farm can obtain about 8197.40 baht /AU/Month (98.76%) from dairy milk only. Likewise, a dairy milk of the small scale farming has generated a great number of revenue and it is account for approximately 8196.49 baht (99.89 %,) Non-dairy milk has only performed about 1.24% coming from selling male calf for the commercial farm. Small scale dairy farming, however, has appeared lower for non-dairy milk revenue (0.11%) that provided by selling calf and heifer.

In regard to revenue, selling milk has dominated farm’s revenue both in commercial farm (116,508,000.00 baht) and in small scale dairy farming (4,672,000.00 baht) as seen in the table 1. However, there is slightly higher revenue (99.89%) in small scale dairy farming compared to commercial farm (98.76%). Selling calves in commercial farming in monthly basis presented about 1,461,600.00 baht (1.24%) and it is somewhat higher than those 1,000.00 baht (0.02%) for small scale dairy farming. The different in technology assessment and the management implementation may impact in the difference in revenue. For instance, the commercial farm use sort of forage (Napier,) of these two farms that can improve dairy

productivity. Moreover, premium milk price of commercial farm has higher price than the regular milk produced by small scale dairy farming.

The revenue of Thailand dairy farming appears higher compared to 87,87% of the contribution in selling milk towards dairy cattle revenue in Jessore District (Rashid, et al, 2007). This evident may be explained with the following reasons. Small scale in dairy farming in Thailand has controlled 52 dairy cattle, while there are only 5.12 animal units raised by small scale in dairy farming at Jessore District. They access semi-modern technology, while there is lack of technology in the Jessore District. Hence, Thailand small scale dairy farming appears the high milk productivity. It is also evidence that the good milk quality and the good milk's price in Thailand, and leads to leverage revenue coming from selling dairy milk.

Production costs observed a great number (5286.09 bath/AU) for small scale dairy farming than those of the commercial farming (5086.05bath/AU/month). Generally, feed cost has dominated in the expenditure among the two types of dairy farming. It is about 65.46 % (3329.48bath/AU) and 69.35% (3665.65 bath/AU) of production costs for commercial and small scale dairy farming, respectively. On the contrary, the artificial insemination has required less expenses in either commercial farming (0.60% or 30.40 bath/AU/Month) or the small scale dairy farming (0.05 % or 2.81bath/AU).

Smallholder dairy farming in Thailand allocated most expenses (69.35%) in the feed cost. This result differed with the study of Pakapun (2000) which the average total cost of dairy composed 58% for animal feed cost. Indonesia small scale dairy farming, however, discovered 84.9% of production costs were devoted to dairy feed cost (Vaida, 2013). The feed cost was structured by more cost in concentrate feed with about 60.10%, whereas only little expenditure (25.5%0%) distributing in forage cost (Maharani, 2014). The evidence in Thailand, however, small scale dairy farming allocated much money (47.40 %) in providing forage compared concentrate feed (17.0%).

Table 1. The Profit and Loss Statement

Items	Commercial Farm		Small Scale dairy farm	
	Baht/AU/month	%	Baht/AU/month	%
<b>I. Revenue</b>				
1. Selling Milk	8197.40	98.76	8196.49	99.89
2. Selling Calf	102.84	1.24	1.75	0.02
3. Selling Heifer	-	-	7.02	0.09
4. Selling Culled Dairy Cattle	-	-	-	-
Total Revenue	8300.24	100.00	7627.20	100
<b>II. Production Costs</b>				
<b>1. Fixed Cost</b>				
a. Dairy Cattle Depreciation	438.86	8.63	456.14	8.63
b. Housing Depreciation	112.57	2.21	87.72	1.66
c. Equipment Depreciation	140.72	2.77	175.44	3.32
d. Land's rent	61.07	1.20	54.82	1.04
e. Biogas depreciation	45.88	0.90	-	-
f. Bank interest	-	-	350.88	6.64
Total Fixed Cost	799.11	15.71	1125.00	21.28
<b>2. Variable Cost</b>				
a. Concentrate Feed	915.14	17.99	667.40	12.63
b. Forage	2414.34	47.47	2998.25	56.72
c. Medicine	168.86	3.32	294.74	5.58
d. Artificial Insemination	30.40	0.60	2.81	0.05
e. Water and Electricity	32.08	0.63	94.74	1.79
f. Transportation	50.66	1.00	84.21	1.59
g. Labour	675.45	13.28	18.95	0.36
Total Variable Cost	4286.94	84.29	4161.09	78.72
Total Production Costs	5086.05	100.00	5286.09	100
<b>III. Profit (EBIT)</b>	3214.19	-	-	-
<b>Tax (7%)</b>	224.99	-	-	-
<b>IV. EAT</b>	2989.19	-	2919.18	-

Source : Commercial farm Primary Data and Small scale farming data, 2014

Note: 1 baht = IDR 385

According to Field (2012) that the assessment of profit was required because the calculation will evaluate financial position on the farm include of monitoring cost, ensure high labour efficiency, measure the production levels and determine the appropriate herd size. Feed is the largest component in cost of dairy farm, that's make most of dairy manager give a lot of focus on it. Productivity of dairy in appropriate ration will support high production, rumen health, optimum reproductive rates, ability of dairy cattle to gain body condition score and energy stores in lactation stage,

Profit per Animal unit appears the variability among these two types of dairy farming. It is accounted for 3214.19 baths of gross profit or Earnings before interest and taxes (EBIT) for commercial and small scale dairy farming, in order. Regarding the net income, there is no taxes for small scale dairy farming, and it leads to its profit becomes similar to Earning after Taxes (EAT). Small scale dairy farming can gain EAT about 2919.18 bath/AU/month, and it is around 2989.19 bath/AU/month of the commercial farm. According to Harahan (2002) profit is an important figure in the financial statements due to various reasons such as: profit is the basis for calculating the tax, the guidelines in determining the investment policy and decision-making, the basis for forecasting earnings and economic events of other companies in the future, the basis for the calculation and assessment efficiency in running the company, as well as a basis for performance appraisal or performance of the company. Profit per Animal unit appears the variability among these two types of dairy farming

## **CONCLUSIONS**

Research discovered that commercial dairy farming as profitable industry than those of small scale dairy farming. This evidence was based on the following financial performance indicators.

1. Commercial farm indicates a high capital (19,626.84 baht/AU/month) and less production costs (5086.05baht/AU) compared to small scale dairy farming (12,303.63 baht/AU and 5286.09 baht/AU, respectively).
2. Commercial farm during one month can generate more revenue (8503.42 baht/AU) of dairy than their counterparts (8205.26 baht/AU).
3. Profit per animal unit during a month appears higher (2989.19 baht) for commercial farm in comparison with small scale dairy farming (2919.18baht)

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