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It is with great pleasure we release the first issue of Livestock Statistical Bulletin. This bi-annual publication will contain information on the findings of economic studies; surveys conducted by the Department of Animal Production and Health, Peradeniya, Sri Lanka and, the latest livestock statistics. We hope that information contained in this bulletin will be useful for planners, policy makers and stakeholders of the livestock industry.

Survey on Cost of Production of Milk

Introduction

The cost of production (COP) is the key determinant of farm gate price of milk, which may vary with the production system. Authentic data on the same is necessary for policy formulation and future planning pertaining to the dairy sector. Therefore, a survey was conducted by the livestock planning and economics division of the Department of Animal Production and Health (DAPH) in 2007 to estimate the cost of production of milk in different production systems in Kandy district. It is expected to extend this pilot project in the future, to cover the entire island.

The findings of this survey are presented in this document.

Methodology

The survey was carried out in Nawalapitiya, Kundasala and Hasalaka veterinary ranges in Kandy district in the last quarter of 2007. These three (03) areas were selected to represent intensive, semi-intensive and extensive production systems. A total of 120 households containing fourty from each veterinary range were selected using multistage stratified sampling method. The average herd size was 5.0 in sample households.

In the calculation of COP, the labor cost for grass cutting, shed cleaning, milking etc were taken in to consideration. Most of the farming households used family labor for these activities. Therefore, family labour valued at the market labour rate and /or price paid for the hired labor was considered. The prevailing price of milk in the formal market was used for the calculation of profit margins.

Cost of Production

The survey results revealed that the average COP of a litre of milk was highest (Rs.32.40) in Nawalapitiya area and lowest (Rs. 23.72) in Hasalaka area. The overall average COP of milk in three selected areas was Rs. 30.55 with the minimum of Rs. 9.31 to maximum of Rs 57.54. This wide variation indicates the possibility of reducing the production cost further, with appropriate managerial interventions. (Table 1).

Table 1. Cost and Profit of Production of Milk in Kandy District

Item	Hasalaka	Kundasala	Nawalapitiya	Overall average
Cost (Rs/l)				
Fixed cost	3.53	4.59	5.28	6.02 (1.27- 20.42)
Labour cost	14.15	16.43	17.60	16.60(4.17 -26.23)
Feed cost	5.08	7.17	8.40	6.81 (1.00 - 13.94)
Veterinary cost	0.43	0.52	0.54	0.45
Other cost	0.52	0.60	0.56	0.55
Cost of Production (Rs/l)				
COP _(TC) of milk (including labor)	23.72	29.35	32.40	30.55 (9.31- 57.54)
COP _(TC) of milk (excluding labor)	6.91	12.47	15.32	13.70 (3.02 - 33.48)
COP _(VC) of milk (Including labour)	22.40	23.93	26.90	24.53 (7.40 -39.26)
COP _(VC) of milk (excluding labour)	3.37	8.15	9.40	7.77 (1.19-17.10)
Farm Gate Price	24.46	23.33	22.65	23.43 (19.22-31.10)
Profit (Rs/l)				
Profit _(TC) (including labor)	-3.63	-7.79	-11.5	-7.14
Profit _(TC) (excluding labor)	16.72	13.52	5.90	9.46
Profit _(VC) (including labor)	1.93	-0.55	-5.10	-1.12
Profit _(VC) (excluding labor)	18.48	15.67	12.10	15.63
Family Income (Rs/day)				
Income by dairying (TC)	109.28	119.55	82.20	111.44 (27.58- 448.88)
Income by dairying (VC)	114.84	161.61	134.90	143.17 (42.59 - 479.32)

The range between maximum and minimum is presented in the parenthesis

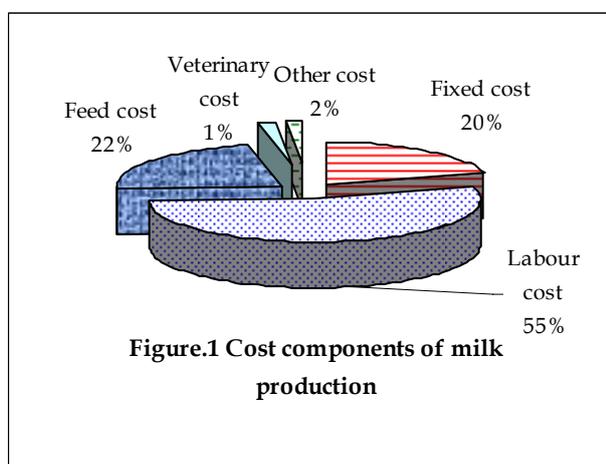
TC: Total Cost

VC: Variable Cost

When labor cost was excluded, the average COP of milk in three selected areas was significantly came down to Rs. 13.70. The average labor cost per one litre of milk was Rs.16.60 in these areas. On an average one litre of milk can be produced at a cost of Rs.24.53 when fixed cost is ignored. However, the average COP of milk was Rs.7.77 when both the labor cost and the fixed cost are excluded (COP (vc) excluding labor). This says small scale farmer need about Rs.8.00 to purchase feed, veterinary services and other day to day items per litre of milk produced.

The labor cost accounts for a major share (around 55%) of the total cost of milk production (Figure 1) while the feed cost and fixed cost were around 22% and 20% respectively. Both the labor cost and the feed cost were highest in Nawalapitiya, compared to other two areas. This explains the large amount of time spent on grass cutting and cleaning activities as well as high level of concentrate feeding in this intensively managed system.

The lowest cost for feed was recorded in Hasalaka area where the animals are sent for grazing and adequately fed with rice by products which are comparatively cheaper in the area.



The average farm-gate price of milk in the formal milk market was Rs.23.43 in these areas ranging from Rs.19.22 to Rs.31.10; MILCO, Nestle and Swiss Cheese Company were involved in the formal milk collection network. The highest farm-gate price for milk was observed in the Hasalaka (Rs. 24.46/l) area. It could be due to availability of local and crossbred dairy animals in this area with relatively higher fat percentage in milk. It was observed that price of milk in the informal market was around Rs 55.60/l in the study area. Though the price of milk was high in the informal milk market, the share of that to the total surplus milk sales was 6 percent of the total surveyed sample. Moreover, 97 % farmers sold their milk to the formal milk collectors.

Profit Margins

The survey results revealed that the average profit margin in producing a liter of milk in these areas was negative (-Rs.7.14) when labor is valued at the market labor rate. However, this showed a positive value of Rs.9.46 when labor cost was excluded; It was lowest (Rs.5.90/l) in Nawalapitiya and highest in Hasalaka (16.72/l) . The reason is due to the low production cost and the high farm-gate price paid for milk in Hasalaka area.

On an average, production of a litre of milk can earn Rs. 15.63 when labor cost is excluded and only the variable cost is considered. As seen in Table 1, a farm family can earn Rs.143.17 per day through dairying as the wage for their labor when only the variable cost is considered . It was Rs.111.44 per day when the fixed cost is also considered. The wide range of (Rs. 27.58 – 448.98) income per day again shows the possibility of increasing the profit margins by adapting proper management practices .

Is Small Scale Dairying Profitable?

Though the results of this survey shows negative profits at the prevailed market rate of labor and the purchasing (farm-gate) price of milk in 2007, rural families can earn part of their expenses through dairying. However, it may not be sufficient as a primary source of income. Therefore, smallholder dairying could be considered as a supplementary income source to rural households.

It is advantageous to popularize the dairying among rural females who are underutilized at the labor market, in order to reduce the opportunity cost for labor in small-scale dairying. The profit can be further increased by increasing the farm gate price of milk and by educating the farmers on cost cutting methods in small -scale operations.

It was evident that the farmer has to spare more time on grass cutting activity, particularly under intensive management system (Nawalapitiya) and ; it shares a larger part in the production cost. This is an issue that should be addressed to increase the milk production cost effectively under this system.

Further, it can be stated that a comprehensive economic analysis on different scales (i.c: 05 cows, 10 cows) of smallholder systems island wide would result in finding optimum operational standards for profitable small-scale dairying in Sri Lanka.

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Survey Team

Dr. (Mrs) K.A.C.H.A. Kothalawala

Mrs.R.K.K.Ranasinghe (LDO)

Mrs. U.K.M.Wickamasinghe (LDO)

Mrs.H.NM.N.M.Herath (LDO)

Mrs. K.Udugama (LDO)

Mrs.S.V.K.Walaliyadde (LDO)

Prepared by:

*Dr. (Mrs.) K.A.C.H.A. Kothalawala
Veterinary Surgeon, Livestock Economics*

**Livestock Planning and Economics Division
Department of Animal Production and Health**

**Peradeniya
Sri Lanka**

**Tel/fax: 94 081 2388186
Email: daphlpe@sltnet.lk**