A STUDY ON THE PERFORMANCE INDEX OF DAIRY FARMS IN KERALA

Sabin George, P.C. Saseendran, K.S. Anil, V. L. Gleeja and P. Reeja George

College of Veterinary and Animal Sciences, Mannuthy, Thrissur, Kerala - 680 651

ABSTRACT

The study was conducted among the dairy farmers of Kerala, with a view to find out the dairy farm performance index under different farm sizes. Data were collected from 350 farmers using a structured schedule by personal interview technique. The farmers were categorized into small or subsistence farms (1-2 cows), medium farms (3-10 cows) and large farms (more than 10 cows). Dairy farm performance index was calculated as totality of three dimensions viz., capacity utilization of the farm, perceived profitability of the farm and dairy production index. All types of farms showed medium level dairy farm performance. The respective values in small, medium and large farms were 54.3, 56.0 and 45.3 per cent. Low dairy farm performance was shown by 32.0, 5.0 and zero per cent of small, medium and large farms, respectively.   High performance was shown by 13.7, 39.0 and 54.7 per cent of the small, medium and large farms respectively.

Keywords: Dairy farm performance index, capacity utilization, profitability

INTRODUCTION

Dairy farming offers significant opportunity for employment in India. In Kerala, dairy sector faces several constraints such as high cost of inputs, low level of fodder development and non-availability of grazing lands. Despite these negative aspects, people are traditionally keeping dairy cows for subsistence. Another interesting trend is the entry of entrepreneurs, who establishes medium and large commercial dairy units. It is imperative to have indices to measure the performance of dairy farms. This article attempts to evaluate the performance of farms of different sizes in the state using dairy farm performance index (DFPI) which has totality of three dimensions viz., capacity utilization of the farm, perceived profitability of the farm and dairy production index (DPI).

MATERIALS AND METHODS

A stratified multistage random sampling procedure was used to select the area of study and respondents. A total sample size of 350 farmers was selected for the present study and they were categorized into small or subsistence farms (1-2 cows), medium farms (3-10 cows) and large farms (more than 10 cows). The numbers of small, medium and large farms included in the study were 175, 100 and 75, respectively. The sample size for each category of farms in each block was determined in proportion to the number of farmers belonging to each category. The objectives of this study

were accomplished through the collection, processing and analysis of primary data using a pre-tested structured interview schedule. Based on review of literature, discussion with experts and observation, three important indications of performance were identified. These were capacity utilization, perceived profitability of the dairy and dairy production index.

Capacity utilization was measured using the capacity utilization index (CUI) developed by Senthilkumar (2003) with appropriate modifications.

$$CUI = (D_H/Dc) \times 100,$$

Where,

CUI is the capacity utilization index,

D_H is the number of adult dairy cattle housed,

D_C is the number of adult dairy cattle that can be housed.

The value of the index ranged from zero to 100. The scoring procedure used by Kumar (1995) was used.

Index value	Score
0-25 per cent	1
26-50 per cent	2
51-75 per cent	3
76-100 per cent	4

Perceived profitability of the enterprise referred to the degree to which an enterprise was perceived to be relatively advantageous in terms of the dairy farmer's perception regarding the profit from running the dairy farm. The procedure adopted by Singh (1992) with slight modifications was followed in this study to measure the perceived profitability. The responses were obtained on a five point continuum as given below.

Response	Score
Very High loss	1
High loss	2
Somewhat profitable	3
More profitable	4
Most profitable	5

Milk production of dairy animals was measured by the livestock production index (LPI) which was measured as recommended by Yang (1980). The DPI for each respondent's animal was calculated by dividing the individual cow's milk production by the zone average.

Dairy farm performance was conceptualized as the totality of all three dimensions. An index was developed to measure the dairy farm performance on the lines proposed by Senthilvinayagam (1999) with appropriate modifications.

$$DFPI = \sum_{i-k}(A_i/P_i)$$

Where,

DFPI = Dairy Farm Performance Index

i = i^{th} dimension

A_i = Actual score of the ith dimension

P_i = Potential score of the ith dimension

k = Number of dimensions

The DFPI values ranged from zero to three. Based on these index values, respondents were categorized into high, medium and low using mean and standard deviation.

RESULTS AND DISCUSSION

The Table 1 presents the Capacity Utilisation Index (CUI) in different farms. In small farms, majority of the farmers (44.0 per cent) utilised only 26 to 50 per cent of the capacity whereas the proportion

who used 75 to 100 per cent of the total capacity was 35 per cent. In medium farms majority (52.0 per cent) utilized 75 to 100 percent of the total capacity. In large farms 42.7 and 41.3 utilised 51 to 75 and 76 to 100 percent of their total capacity.

The perceived profitability of the enterprise by the farmers is presented in Table 2. In small, medium and large farms, 76.0, 84.0 and 92.0 per cent, respectively perceived their profitability as somewhat profitable, while 21.7, 7.0 and 6.7 per cent of farmers in small, medium and large farms, respectively expressed it as high loss and only 2.3, 9.0 and 1.3 per cent of respective farms viewed it as more profitable.

The mean dairy production index (DPI) under different farm sizes were 0.88, 1.01 and 1.25 in small, medium and large farms, respectively. Yang (1980) measured milk production of animals using livestock production index. It was calculated by dividing the individual cow's milk production by the region average. The value above unity meant better performance of the animal than area average.

Dairy farm performance index (DFPI) in different farm types is presented in Table 3. In all farm types, farms showed medium dairy farm performance. The respective values in small, medium and large farms were 54.3, 56.0 and 45.3

Table 1. Capacity utilization index in different types of farms

Farm type	Number & Percent	Capacity utilization index %			
		0-25	26-50	51-75	75-100
Small	Number	18	77	45	35
	Percent	10.3	44.0	25.7	20.0
Medium	Number	0	19	29	52
	Percent	0.0	19.0	29.0	52.0
Large	Number	0	12	32	31
	Percent	0.0	16.0	42.7	41.3

Table 2. Perceived profitability of the enterprise in different farm types

Farm type	Number & Percent	Perceived profitability				
		Very high loss	High loss	Somewhat profitable	More profitable	Most profitable
Small	Number	0	38	13	4	0
	Percent	0.0	21.7	76.0	2.3	0.0
Medium	Number	0	7	84	9	0
	Percent	0.0	7.0	84.0	9.0	0.0
Large	Number	0	5	69	1	0
	Percent	0.0	6.7	92.0	1.3	0.0

Table 3. Dairy farm performance in different types of farms

Farm type	Number & Percent	Dairy farm performance		
		Low	Medium	High
Small	Number	56	95	24
	Per cent	32	54.3	13.7
Medium	Number	5	56	39
	Per cent	5	56	39
Large	Number	0	34	41
	Per cent	0	45.3	54.7

percent, respectively. Low dairy farm performance was shown by 32.0, 5.0 and zero per cent of small, medium and large farms, respectively. High performance was shown by 13.7, 39.0 and 54.7 per cent of the small, medium and large farms, respectively.

Senthilvinayagam (1999) conceptualized the dairy farm performance in the form of Dairy Farm performance Index (DFPI) which was totality of three dimensions viz., capacity utilization of the farm, perceived profitability of the farm and dairy Production Index (DPI). Performance was a function of ability and motivation of the entrepreneurs and was the explicit behaviour exhibited by the entrepreneur in running the enterprise (Senthilkumar, 2003).

SUMMARY

The dairy farm performance index was calculated for small, medium and large dairy units in Kerala. All type of farms showed medium level of performance based on this index. The respective values in small, medium and large farms were 54.3, 56.0 and 45.3 per cent. The proportion of low level performance was highest in small farms and least in large farms. DFPI is a method of farm management investigation and entrepreneurial behaviour that provides an indication on the performance of dairy units.

REFERENCES

Kumar, G.K. 1995. The entrepreneur in economic thought: A thematic overview. *The J. Entrepreneurship*, **4**(1): 1-15.

Senthilkumar, R. 2003. Entrepreneurial behavior of commercial poultry farmers of Namakkal district (Tamilnadu). *Ph.D. Thesis*, IVRI, Izatnagar. 160p.

Senthilvinayagam, S. 1999. Entrepreneurial behavior of agri-business operators. *Ph.D. Thesis*, Kerala Agricultural University, Vellanikkara, 160p.

Singh, K. (1992). Women Entrepreneurs. Ashish Publishing House, New Delhi. 212p.

Yang, W.Y. 1980. Methods of farm management investigation. FAO agri-cultural Division Paper No.80.FAO, Rome. 212p.