

An economic analysis of dairy enterprises in Maharashtra

A.K. VITONDE, R.D. VAIDKAR, R.B. PETHKAR AND A.D. CHAUHAN

See end of the article for authors' affiliations

Correspondence to :

A.K. VITONDE

Department of
Agricultural Economics,
Shri Shivaji Agriculture
College, AMRAVATI
(M.S.) INDIA

ABSTRACT

The survey was conducted in the year 2006-07 by way of selecting 100 milk producers randomly from four villages of Wardha district of Maharashtra. The data were analyzed for socio economic characteristics of milk producers, management practices and economics of milk production. The annual maintenance cost of buffalo was more than cow. Feed and fodder was the major items of expenditure in milk production. Overall gross income, net cost and net income per animal per year was Rs. 25045.19, Rs. 19420.76 and Rs. 2294.28, respectively in case of cow and in buffalo Rs. 29726.13, Rs. 22616.28 and Rs. 3660.90 with per litre cost of production Rs. 11.21 and Rs. 14.69 in cow and buffalo, respectively. The buffalo was more profitable than cow and hence adoption of recommended practices was more in buffalo.

INTRODUCTION

In India dairy enterprises play a significant role in the production of milk. Due to population explosion and urbanization, there is a greater demand for milk and milk products. The dairy enterprises provide income and employment to the weaker section of the society (Shanmugam, 1991). The returns from small holding can be maximized by proper combination of dairy enterprises with crop production. Under the dairy enterprises, livestock management is an important aspect of dairy sector. Livestock management involves the integrated application of the principles of animal breeding, feeding, housing and disease control in a manner suitable for a particular situation. Management of livestock involves application of a large number of jobs at the proper time and in proper manner and hence it is necessary to study the different management practices followed by the milk producer in a particular locality.

Milk production in India is in the hands of millions of such milk producers who are ignorant about the economic aspects of milk production. Therefore, the study of economics of milk production is of practical interest to milk producers in pointing out the directions to bring down the cost of production of milk, thus ensuring good margin of returns to producers and their price to the consumer indirectly governing the supply and demand position of milk. It is also helpful in taking rational economic decision by selecting the type and

breed of milch animals, size herd and allocation at their resources such as land, labour and capital etc. Under such conditions, it becomes necessary to study the socio economic characteristics of milk producers and to study the different management practices followed by the milk producers and also to study the economics of milk production.

METHODOLOGY

The study of an economic analysis of dairy enterprises in Wardha district of Maharashtra was carried out. The required information was categorized into three different groups based on their daily milk yield. The random sampling technique was adopted. The Arvi and Karanja Tahsils of Wardha district were purposively selected, from these two Tahsils and the four villages namely Danapur, Chapan, Wadhona and Pimpalkhuta were selected based on higher livestock population and milk production. In all 100 milk producers were selected, out of which 50 were cow milk producers and 50 were buffalo milk producers which were grouped and classified into low yield (20 to 30 l) medium yield (31 to 40 l) and high yield (41 to 50 l) according to their daily milk yield.

The primary data pertaining to the year 2006-2007 from the selected milk producers were collected by personal interview and pre-tested questionnaire. To study the socio-economic characteristics of selected milk producers, relevant information was collected with respect to the operational holdings,

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cropping pattern, size and composition of herd size, educational status of head of the family, social status, family structure etc. Simple tabular analysis method was used to accomplish the objectives of the present study. The management index of development of milk producers using the various management practices was considered as the unit of analysis.

RESULTS AND DISCUSSION

Dairy is an important supplementary enterprise for the farmer that offers scope of diversification of agriculture and thus helps augment income and employment on the farms. Due to lack of irrigation facilities, agricultural operations in the rainfed areas are confined to *Kharif* season only. Therefore, labour and resources of the farmer remain ideal part of the year. These resources can be utilized for supplementary enterprises like dairy. Such enterprises provides additional income to the farmers without affecting the production of main enterprise.

In the management index, the number of member in the category of good (0-0.33), medium (0.34-0.66), poor (0.67- 0.99) and very poor (above 1.0) for rearing cows and buffaloes were 11 (22%) and 13 (26%), 23 (46%) and 21 (42%), 12 (24%) and 10 (20%), 4 (8%) and 6

Table 1 : Distribution of farmers on the basis of management index

Sr. No.	Management index	No. of member	
		Cow	Buffalo
1.	1.00 and above (very poor)	4 (8.00)	6 (12.00)
2.	0.67-0.99 (poor)	12 (24.00)	10 (20.00)
3.	0.34-0.66 (medium)	23 (46.00)	21 (42.00)
4.	0-0.33 (good)	11 (22.00)	13 (26.00)

(12%), respectively (Table 1).

The overall feed and fodder requirement of cow and buffalo were 5585.73 kg and 4713.90 kg per animal per year, respectively (Table 2).

The overall annual maintenance cost of cow and buffalo was Rs. 22750.91 and Rs. 26065.23, respectively per animal per year (Table 3 and 4). The overall milk yield per buffalo per year was 1545.72 litre. The green fodder and concentrate requirement of buffaloes increased as the milk yield going on increasing. Similarly overall milk yield per cow per year was 1737.20 litre. Green fodder and concentrate plays a significant role in

Table 2 : Quantities of different feeds given to animal

Sr. No.	Particulars	Groups			
		Low	Medium	High	Overall
A	Cow				
1	Dry fodder	1885.30 (35.85)	1970.37 (36.23)	2054.81 (36.75)	1970.15 (36.27)
2	Green fodder	2855.20 (56.46)	2965.63 (55.99)	3117.37 (55.41)	2979.40 (55.96)
3	Concentrate	321.86 (7.12)	328.50 (7.21)	341.88 (7.28)	330.75 (7.20)
4	Supplements	28.47 (0.57)	29.19 (0.57)	31.01 (0.57)	29.56 (0.57)
	Total	5423.32 (100)	5576.23 (100)	5757.65 (100)	5585.73 (100)
B	Buffalo				
1	Dry fodder	1554.80 (36.29)	1765.45 (37.09)	1903.58 (37.35)	1741.29 (36.91)
2	Green fodder	2435.30 (56.84)	2687.35 (56.45)	2845.66 (55.83)	2656.10 (56.37)
3	Concentrate	270.37 (6.31)	278.98 (5.86)	314.42 (6.17)	287.92 (6.11)
4	Supplements	24.22 (0.57)	28.48 (0.60)	33.07 (0.65)	28.59 (0.60)
	Total	4284.7 (100)	4760.26 (100)	5096.73 (100)	4713.90 (100)

Table 3 : Cost and economics of milk production of cow

Sr. No.	Particulars	Groups			
		Low	Medium	High	Overall
1.	Total maintenance cost per year (Rs.)	20522.24	22511.64	25218.87	22750.91
2.	Income from manures (Rs.)	1983.54	2080.63	2189.78	2084.65
3.	Total milk production (l)	1463.56	1712.68	2035.37	1737.20
4.	Value of milk	18294.50	21408.50	25442.13	21715.04
5.	Value of young stock (Rs.)	1756.28	1013.31	966.91	1245.50
6.	Gross income (2+4+5)	22034.32	24502.44	28598.82	25045.19
7.	Net income (6-1)	1512.08	1990.80	3379.95	2294.28
8.	Net cost (1-2-5)	16782.42	19417.70	22062.18	19420.76
9.	Cost per litre of milk production (8/3) (Rs.)	11.47	11.34	10.84	11.21
10.	Price per litre of milk production (Rs.)	12.5	12.5	12.5	12.5
11.	Net profit per litre of milk production (10-9) (Rs.)	1.03	1.16	1.66	1.29
12.	Output-input ratio (10/9)	1:09	1:10	1:15	1:12

Table 4 : Cost and economics of milk production of buffalo

Sr. No.	Particulars	Groups			
		Low	Medium	High	Overall
1.	Total maintenance cost per year (Rs.)	24957.93	25426.89	27810.87	26065.23
2.	Income from manures (Rs.)	2489.04	2534.45	2576.82	2533.44
3.	Total milk production (l)	1383.20	1500.77	1753.18	1545.72
4.	Value of milk	23514.40	25513.09	29804.06	26277.18
5.	Value of young stock (Rs.)	1070.82	877.56	798.14	915.51
6.	Gross income (2+4+5)	27074.26	28925.10	33179.02	29726.13
7.	Net income (6-1)	2116.33	3498.21	5368.15	3660.90
8.	Net cost (1-2-5)	21398.07	22014.88	24435.91	22616.28
9.	Cost per litre of milk production (8/3) (Rs.)	15.47	14.67	13.94	14.69
10.	Price per litre of milk production (Rs.)	17	17	17	17
11.	Net profit per litre of milk production (10-9) (Rs.)	1.53	2.33	3.06	2.31
12.	Output-input ratio (10/9)	1:10	1:16	1:22	1:16

increasing milk yield.

The feed and labour charges were the major items of expenditure in annual maintenance cost of cow and buffalo. Feed accounted 60.41 and 59.49 per cent cost of the total maintenance cost. The average cost of production per litre of milk was Rs. 11.21 and Rs. 14.69 for cow and buffalo, respectively. The overall average gross income per animal per year was Rs. 25045.19 and Rs. 29726.13 for cow and buffalo, respectively. The gross income was more for buffalo than cow.

Milk yield of milch animal was dependend on green fodder and concentrate. There was no effect of dry fodder on milk production. The overall average income received from cow and buffalo was Rs. 2294.28 and Rs. 3660.90 per animal per year. The overall net profit per litre of milk production was Rs. 1.29 and 2.31 for cow and buffalo, respectively. The overall input output ratio was 1:12 and 1:16 for cow and buffalo, respectively. Therefore, it is cleared that the buffaloes are more profitable than cows (Table 3 and 4). Grover *et al.* (1992). and Kalra *et al.*

(1994) also conducted the investigation on economics of milk production in Punjab and Haryana, respectively.

Authors' affiliations

R.D. VAIDKAR, R.B. PETHKAR AND A.D. CHAUHAN, Department of Agricultural Economics, Shri Shivaji Agriculture College, AMRAVATI (M.S.) INDIA

REFERENCES

- Grover, D.K., Sankhayan, P.L and Mehata, S.K.** (1992). An economic analysis of milk production in Bhatinda district of Punjab. *Indian J. Dairy Sci.*, **45** (8): 409.
- Kalra, K.K., Singh, Rajvir and Chauhan, A.K.** (1994). Comparative economics of milk production in rural and urban areas of Haryana. *Indian Dairyman*, **46** (12): 751-755.
- Shanmugam, T.R.** (1991). Economic analysis of dairy projects. *Agric. Banker*, **14** (4): 26-29.

